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Minicam Photography

MINIATURE
CAMERA
MONTHLY

EDITED BY WILL LANE, A. R. P. S.

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LETTERS FOR THIS DEPARTMENT
SHOULD BE ADDRESSED TO "IN FOCUS"
MINICAM PHOTOGRAPHY MAGAZINE,
22 E. TWELFTH ST., CINCINNATI, OH.

"Perfect" Camera

There has been a lot of discussion and articles about the "camera of the future." But these leave out many features. This is my idea of the "perfect" camera.

1. It will have shutter speeds from 1 second to 1/500 second with a spring-wound timing mechanism for time exposure.

2. Double exposure prevention, but with automatic release for wanted double exposures.

3. Coupled range-finder view-finder with beam-of-light for focusing in the dark.

4. Built-in flash synchronizer with adjustable socket for any size bulb and adjustable folding reflector for wide or distant light reflection.

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7. Built-in direct reading photo-electric exposure meter with automatic filter compensation and release for removing meter from camera.

8. Automatic film transport for rapid sequence shots coupled with flash bulb ejector for flash sequence shots.

(Page 7, please)

MINICAM PHOTOGRAPHY (TITLE REG. U. S. PAT. OFF.), PUBLISHED AT 22 E. 12th ST., CINCINNATI, O. MANAGING EDITOR, WILL LANE, A. R. P. S. BUSINESS MANAGER, A. M. MATHEU. EDITORIAL ASSOCIATES: HENRY CLAY GIPSON, FRED KNODD. CONTRIBUTING EDITORS: JOHN HUTCHINS, ROBERT S. VICKERY, MARY D. DODD. ADVERTISING MANAGER: ROBERT A. ROSENTHAL. ADVERTISING ASSISTANT: ROBERT A. ROSENTHAL. SUBSCRIPTION \$2.50 IN U. S. A. AND POSSESSIONS. CANADA AND COUNTRIES IN PAN-AMERICAN POSTAL UNION, \$2.00. ELSEWHERE, \$3.50. SINGLE COPIES, 25c. EASTERN ADVERTISING OFFICE: EVERETT GELLERT, 62 WEST 45th STREET, NEW YORK CITY, TELEPHONE VA 6-5554. MID-WEST ADVERTISING OFFICE: BERNARD A. ROSENTHAL, 333 NORTH MICHIGAN AVENUE, CHICAGO, ILL. TELEPHONE, FRANKLIN 7100. WEST COAST OFFICE: A. ROTHENSBERG, 2270 WILSHIRE BOULEVARD, LOS ANGELES, CALIFORNIA. TELEPHONE, FEDERAL 8447. ENTERED AS SECOND CLASS MATTER AT CINCINNATI, OHIO, U. S. A., MARCH 21, 1938, UNDER THE ACT OF MARCH 3, 1879. PRINTED IN U. S. A.

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The new Phaostron Military Type Range Finder utilizes principles of surface mirroring produced under a vacuum, recently developed by John Strong, PH.D., of the astrophysics department of the California Institute of Technology—accurate measurements from 2'6" to 50' and into infinite are assured. Each instrument is scientifically and individually set for perfect operation. Attaching device fits all conventional cameras.

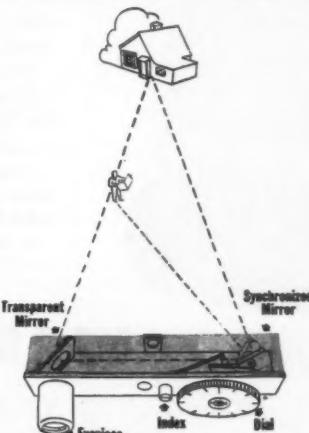
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Alhambra, California

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WESTON *Exposure meters*

9. Waist level brilliant view-finder, ground glass viewer, as well as direct view-finder mentioned in item No. 3.

10. Rapid film rewind (scratchless), dustfree, scratchfree non-reflecting film alignment, and rapid loading automatic threading device.

11. Interchangeable backs with individual counters for changing film in middle of roll.

12. Tilting lensboard.

13. Autographic device to mark exposure and aperture on each frame of film.

Such a camera could do everything except pound nails.

P.S. It's something for inventors to work on.

R. C. CRIPPEN.

Fort Madison, Ia.

An article describing a "dream" camera with several new features is scheduled for next month.—ED.



Set to Music

Sirs:

Did you ever see Musical notes flying through the air with the greatest of ease?

I was trying to get some open-flash shots of a pretty skater practicing one afternoon for her part in the Ice Revue at the Hotel Netherland's Continental room.

While the shutter was open, her flashing skates scribbled musical notes on my film. Bet I couldn't do it again if I tried.

BOB MILLS.

Cincinnati, O.

"Cine Film Prayer"

Sirs:

The enclosed from a circular by General Films, Ltd., rather appeals to me. I hope you will find it useful.

MINICAM contains much that never appears in other contemporary magazines, and for that

You'll Enjoy AMATEUR MOVIES More



WHEN YOU SHOW THEM

ON A **DA-LITE** CHALLENGER SCREEN

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• Its specially-processed *Da-Lite Glass-Beaded Surface* makes pictures brighter and sharper and brings out colors faithfully in full brilliance.

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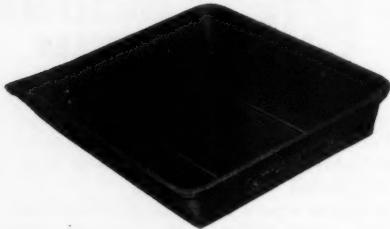
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HARD RUBBER TRAYS

reason is very popular here. Keep up the good work.

"I am celluloid, not steel. I front dangers when I travel the whirring wheels of the projector. Over the sprocket wheels, held tight by the idlers, I am forced by the motor's might. If a careless hand *mistreats* me, I have no alternative but to go to my death. If the *pull* on the take-up reel is too violent, I am torn to shreds. If *dirt* collects in the aperture, my film of beauty is streaked and marred. . . .

"I travel many miles in tin cans. I am tossed on heavy trucks, sideways, and upside down. . . . Speed me on my way. Others are waiting to see me. The next day is the last day I should be held. Have a heart for the other fellow who is waiting, and for my owner who will get the blame.

"I am a delicate ribbon of film—misuse me and I disappoint thousands; cherish me, and I delight and instruct the world."

P. D. INOLIS.

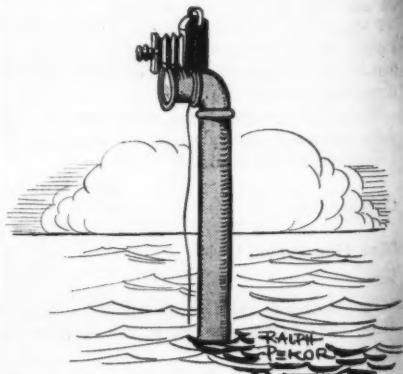
Toronto 12, Canada.

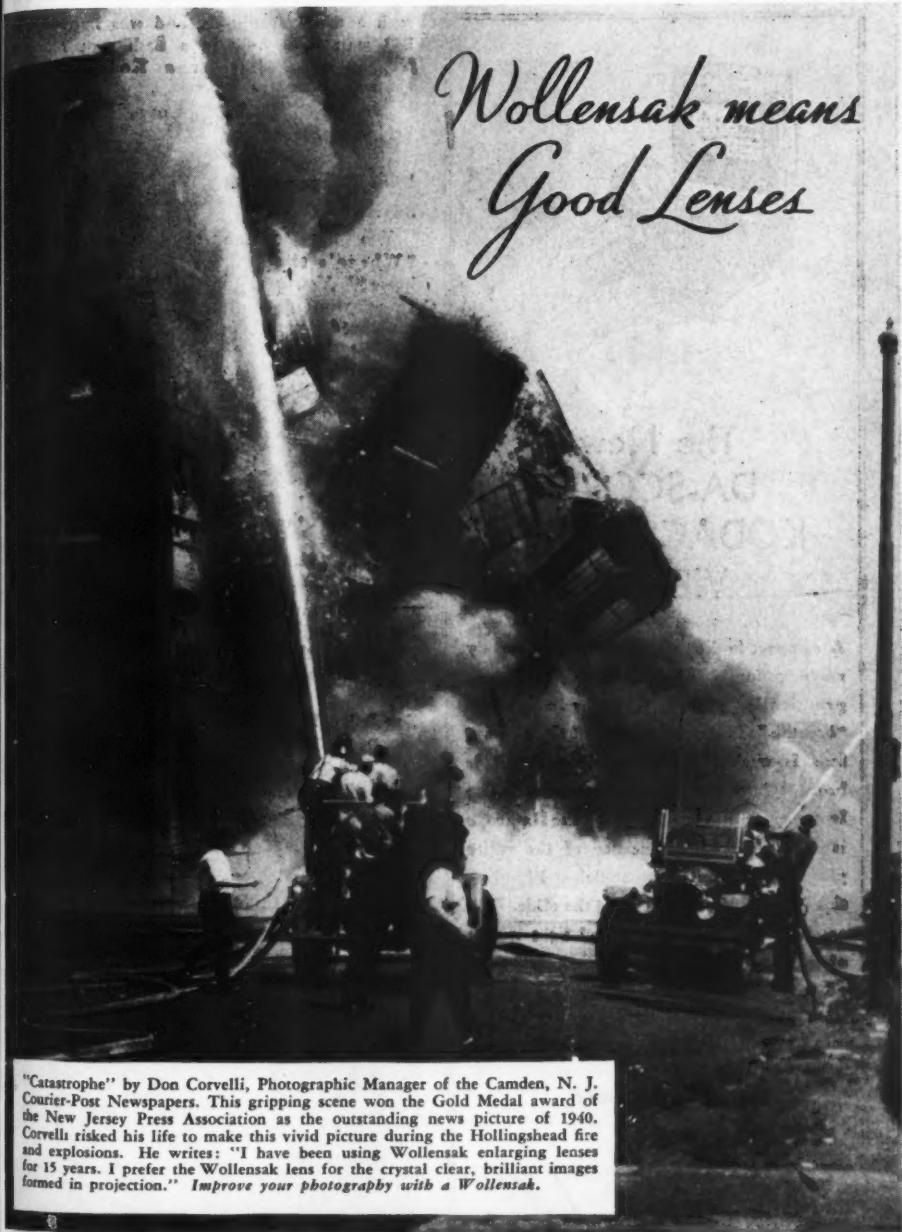


"Worry Bird To Rescue"

Sirs:

Just for the fun of it, I have given the November "MINICAM" cover a new turn. I felt sorry for the poor girl with the wormy apple so I turned our "Worry Bird" loose to help relieve the situation. The cover was used



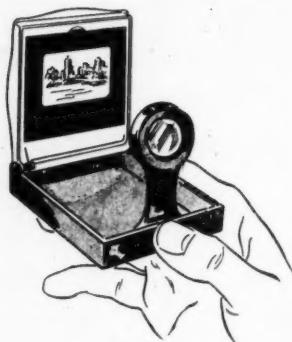


Wollensak means Good Lenses

"Catastrophe" by Don Corvelli, Photographic Manager of the Camden, N. J. Courier-Post Newspapers. This gripping scene won the Gold Medal award of the New Jersey Press Association as the outstanding news picture of 1940. Corvelli risked his life to make this vivid picture during the Hollingshead fire and explosions. He writes: "I have been using Wollensak enlarging lenses for 15 years. I prefer the Wollensak lens for the crystal clear, brilliant images formed in projection." Improve your photography with a Wollensak.

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WOLLENSAK OPTICAL CO., ROCHESTER, N.Y.



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A compact folding slide viewer handsomely made of durable red and white plastic, that practically makes Kodachrome stills "breathe." The magnification of the viewing lens is such that the smallest detail is brought into sharp and clear focus. The lens springs into position when the Da-Scope is opened. The translucency of the white plastic top permits both sufficient illumination and diffusion for viewing the slide. The small ($2\frac{1}{8} \times 2\frac{3}{4} \times \frac{5}{8}$) and light weight of the Da-Scope make it truly a "vest-pocket" instrument.

\$1.95

Mall Orders Filled

Willoughbys

32nd St., near 6th Ave., N. Y.

Established 1898

with a towel around it, and was lighted with 100 watt light bulb in a flash spot reflector, f/22, Portra 3 lens on a Kodak Monitor. Fifteen seconds exposure.

LOUIS ATWATER

Bridgeport, Conn.

"Just Happenstance"

Sirs:

You have reason to wonder and ask, "Where's the horse?" Yes, I agree you see his head and forefeet, but is it possible that I, only weighing 125 pounds, could cover up the entire body of the horse? You can see the shadow of the horse, too.

Trying to get a trick effect was not my purpose. It just happened that way. Can anyone tell how?

DOROTHY KOBERSTINE.

Fox Lake, Ill.



"NO, I HAVEN'T ANY FILM—I'M JUST LEARNING."

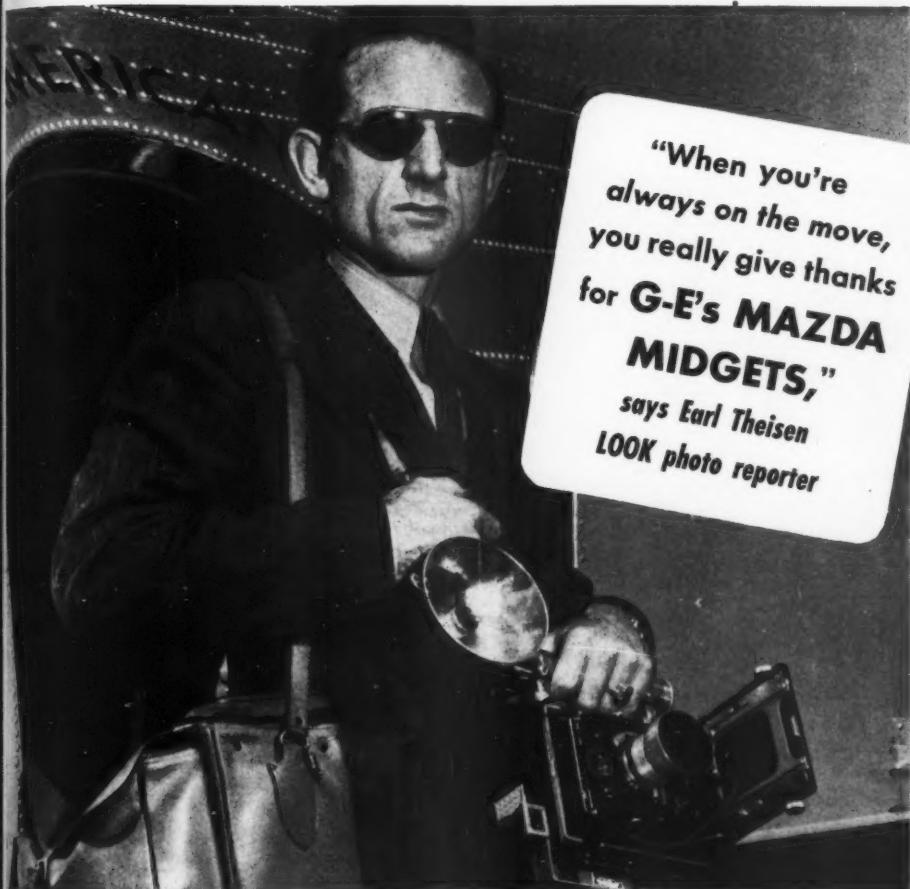


Photo by Ken Young, AMERICAN AIRLINES. One G-E No. 5 at 1/60th Fstop on high speed pan film

"When you're
always on the move,
you really give thanks
for G-E's MAZDA
MIDGETS,"
says Earl Theisen
LOOK photo reporter

Earl Theisen has to travel fast and travel light in covering assignments for LOOK. But above all, he has to get the picture. That's why what he says about Midger G-E MAZDA photo/flash lamp No. 5 is important to you. "I use G-E MAZDA Midgets on all of my trips for LOOK MAGAZINE because they give results and at the same time

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G-E No. 5 offers walnut-size convenience and, in proper reflectors, big bulb performance.

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G-E MAZDA PHOTOFLASH LAMPS

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G-E Flash Facts in a nutshell

Lamp	Bulb Life	Equivalent Arcless No. 5 Color Temp. No. 11
No. 5	17,000-19,000 Seconds	175 3800°F.
No. 11	28,000-32,000 Seconds	175 3800°F.

* These guide numbers based on 1/200° shutter
and high speed film (Weston 64, 0-4 100)
used in proper reflectors.

C

Creative Design... Devices F



Creative Photography translates Terms of Nature into Terms of Art. From the enlargement on paper (left), the solarized print (right), is made by exposing it, while still in, the developer, to white light. Development is continued under safe light until the print is nearly black; the fix, wash and dry being completed as usual. The solarized print, now a negative, an artistic result in itself, is used to make the final prints.

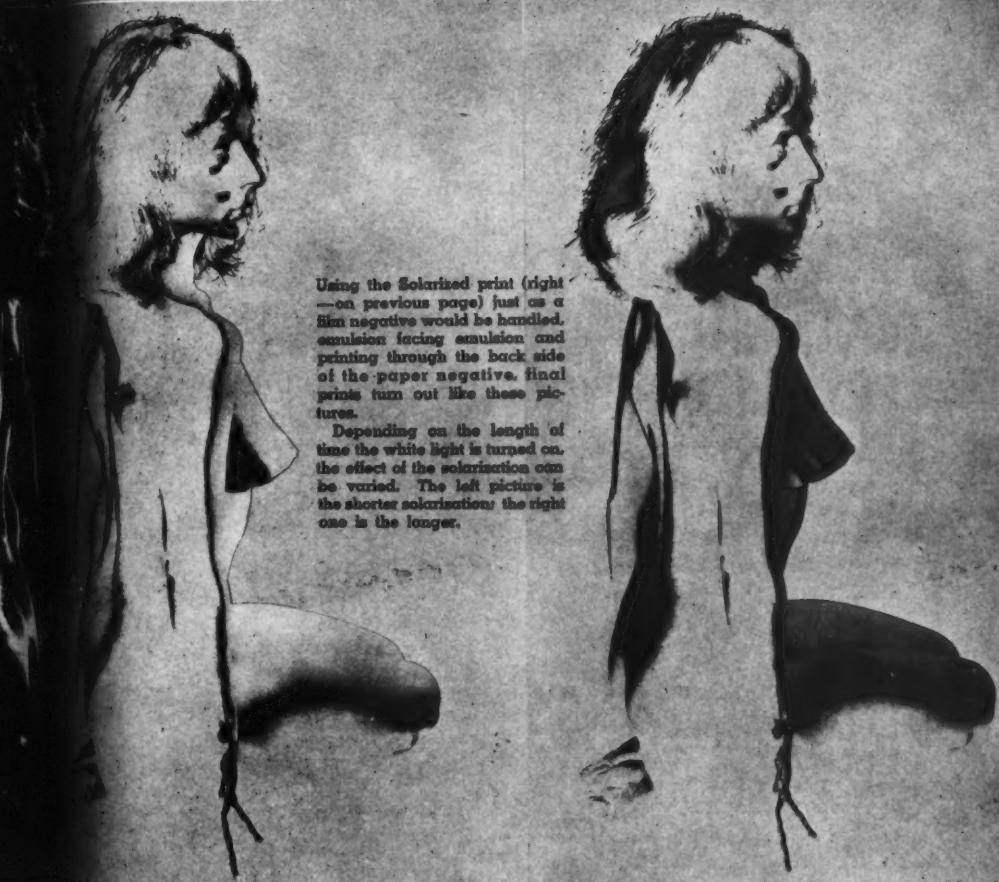
By ANDREAS FEININGER

TRY photography loose from the conventional. To excite interest with pictures, don't show too much. Make hints and give indications, but don't execute and explain things too fully. Hide something beneath the surface, enough to make it worth while to find out, enough

to stir the imagination. The highly corrected lens usually shows not only "too much," but everything, hair, pores and pimples, proving beyond any doubt that "technique" can be the opposite to "creation".

Because the human body is pure de-

es For Photographers



Using the Solarized print (right—on previous page) just as a film negative would be handled, emulsion facing emulsion and printing through the back side of the paper negative, final prints turn out like these pictures.

Depending on the length of time the white light is turned on, the effect of the solarization can be varied. The left picture is the shorter solarization; the right one is the longer.

sign it has been and always will be the greatest subject for artists. Photographers can do no better, especially in creative photography. While a photograph of a general nature "that shows too much" simply is negligible, the picture of a nude immediately becomes something worse, tasteless, even dangerous and obscene.

In the rendering of the human form,

convention and law set certain limits, but even much more rigid are the rules of Art that have to be respected if our efforts are to result in something more than mere reproductions. For then, it is no longer enough simply to stay out of danger, but something much more creative will have to be done; the theme has to be subdivided into essentials and unimportant

details, a pattern for the composition must be found, light and shadow have to be adapted to the peculiarities of lines and forms. In other words: Terms of Nature have to be translated into Terms of Art.

Aims Must Be Clarified

In order to be able to do this properly, we have to clarify our aim, which is to re-create the human form in photographs. What we want to show is NOT a representation of Miss Somebody with her clothes off, but, in this case, the *symbol* of the feminine figure; to which effect actual, individual features have to be suppressed, and collective, universal and symbolic formal elements must be pronounced. One thing: the face, as the center of individuality, if too clearly shown will invariably distort the expression of the nude, make it personal and often obscene, the picture of a certain naked woman. On the other hand, if the face is not recognizable, either because averted from the camera, or because the head is excluded from the rendering, the impression made by the photograph will automatically increase; the torso, the body without head and arms and legs, is doubtlessly the most concentrated form for depicting the human body, and certainly not for nothing the favorite of sculptors of all times.

Three Basic Methods of Simplification

There are three basically different ways of achieving that simplification and suppression of superfluous detail, of creating that "picture that doesn't show too much," which is necessary for the rendering of nudes that are more than mere reproductions: 1. Contrast control; 2. Diffusion; 3. The "graphical" techniques.

1. Contrast Control

By making proper use of light and even more so of shadow, a very far reaching simplification (stylization) of a nude can be obtained; highlights can be used to "burn out" the texture of the skin (it's

against all academical rules!), while unwanted details from small spots to whole parts of the body, conveniently can be "drowned" in the hiding blackness of shadow. A typical example of this special technique for transforming "Terms of Nature into Terms of Art" by means of lighting is the left photograph on title page; it is built up from white and black with hardly any intermediate shades of gray. No one could fail to observe, how strongly it pronounces the elemental forms of the body, and how at the same time, it suppresses the least bit of superfluous detail that might endanger the pictures' power of expression. While it might be desirable in other fields of photography to retain at least a trace of design in highlights as well as in shadows (which, however, is a rule that never should be followed indiscriminately, as there are plenty of exceptions), in photographing the nude rather the opposite is true: Lack of detail, design and different shades of gray is always preferable to abundance, and showing too little is always better than revealing too much.

Technical Methods

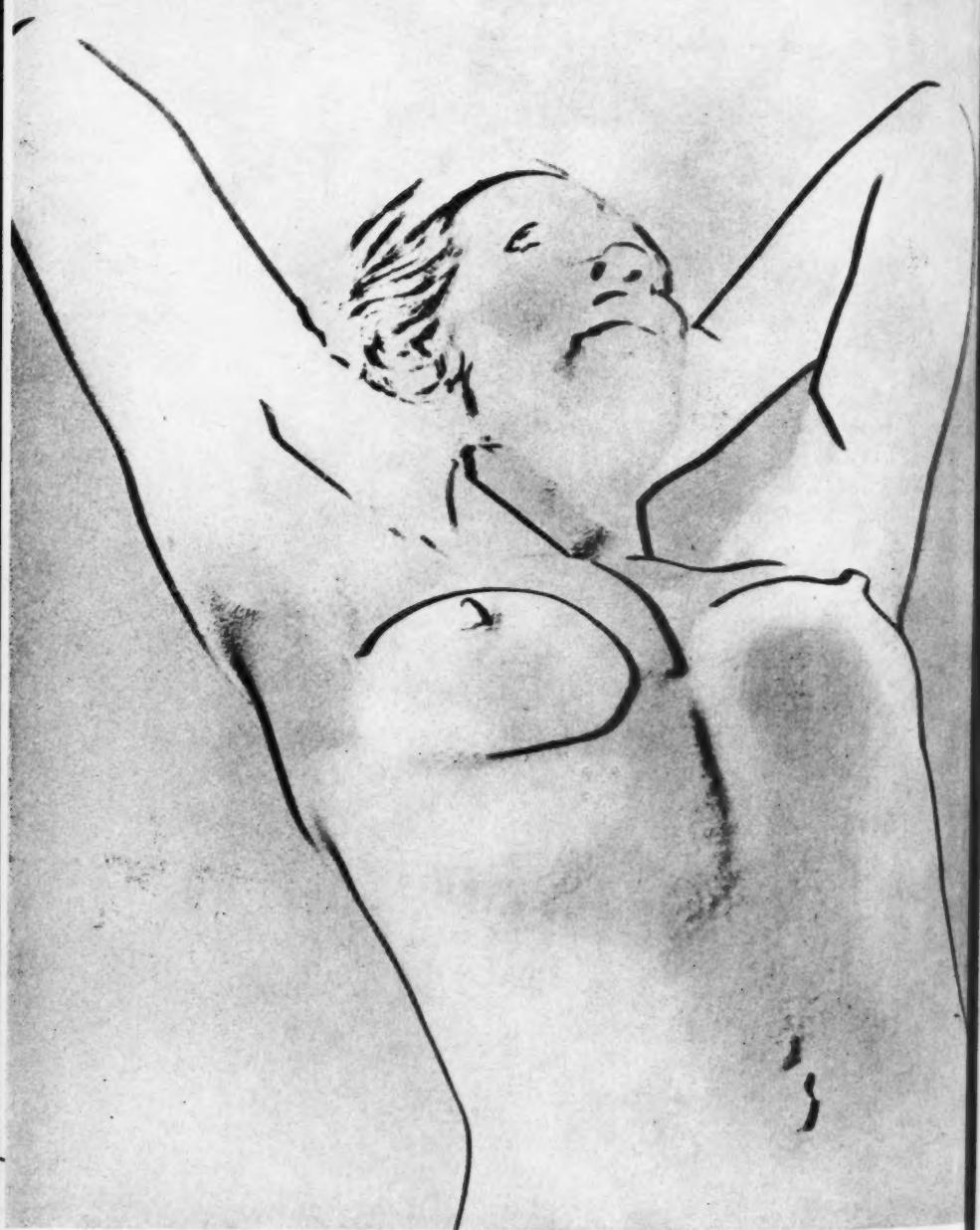
Technically, contrasts can be controlled by varying one or several of the three steps of lighting, exposure and printing. The stronger and the more concentrated the light (outdoors: clear sunlight; indoors: spotlights without floodlight "fill-in"), the shorter the exposure (within reasonable limits!) and accordingly the more prolonged the development of the negative, and the harder the gradation of the printing paper, the stronger will be the contrasts in the finished print. And vice versa. By wisely changing one or several of these conditions, any desired grade of contrast can easily be achieved, from softest gray-in-gray to strongest black and white. Farthest reaching of these steps with regard to pictorial consequences, because practically no control is possible later, is the manner of lighting for the original negative.

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THE SOLARIZED PAPER-POSITIVE becomes a fantastic outline sketch of a nude. Reminiscent of the imaginative draftsmanship of the great modernist Paul Klee, the German, who died an exile in Switzerland last year. This form of rendering arouses interest, gives food to the imagination.



A BAS-RELIEF when printed on very hard paper becomes a sweeping simplification. The condensation has the beauty of line of a charcoal sketch. It is still basically an honest photographic rendering; certainly it could not be considered an imitative process.

2. Diffusion

While contrast control is the best means to improve the gray scale of a photograph, "diffusion" mainly affects the outlines and forms. But contrary to the effect of an increase in contrasts, which always has a clarifying influence on the rendering of a nude, "diffusion" often results in confusing the forms and weakening the power of the picture. Granted, it permits the elimination of much superfluous detail. But it also dissolves important picture elements together with the superfluous ones, and decreases the contrasts in the photograph, often a decidedly undesirable effect. The only real advantage of diffusion is a better rendering of light, and only where the light is as important as the nude, might this process decisively improve the picture.

The most satisfactory way of diffusion is using a special slip-on "soft focus lens" for making the negative. "Out-of-focus" pictures look blurred and messy. "Diffusion" with moving glass or crumpled cellophane in front of the enlarger results in dark seams along the shadows instead of bright seams around the edges of the lights. The only satisfactory way of getting diffused prints from sharp negatives is to print through a "soft focus lens" which has been slipped over your regular enlarger lens.

3. The "Graphical" Techniques

Farthest reaching in effect for clarification of the rendering, establishing clearly defined tones and forms, and transforming a motive from the raw naturalistic state into a graphically translated picture, are the photo-"graphical" techniques, because their influence extends to contrasts as well as to outlines and planes. There are three different graphical processes from which to choose, and each of them may be applied either alone or combined with one or two of the others, providing a practically unlimited scope for the creation of new and powerful effects.

Negatives that are intended for graphical treatment had best be made especially for this purpose; one of the chief condi-

tions for satisfactory results being strong contrasts (in fact a downright hard gradation is frequently desirable!) and the clearest and simplest imaginable design. Furthermore, light and shadows should follow the forms of the nude organically, because in two of the processes, the bas-relief and solarization, there is emphasis on the borders, which, when cutting across important forms of the body, would break them up and cause a messing up of the composition. The background should be kept strictly neutral in order not to interfere with the motive. Outdoors, the clear sky is always ideal; indoors, a gray or black piece of fabric (or a dark wall) will usually be all that's necessary. For indoor pictures displaying the whole figure, posing the model on a piece of the same material and color as used for the background can be recommended. The result will be a complete isolation of the nude both from the ground and background in the picture.

The First Graphical Process: The Bas-Relief

Make a contact print of your negative on film (positive transparency); put this new "positive negative" on the original negative, emulsion facing emulsion, move them slightly out of register, put them thus together into the enlarger and make a print. The result will be a picture with "graphical" lines following the edges of all outspoken forms, wide or narrow depending on the difference in register of the design of the films (see photograph page 18). When contrasty negatives with clear and simple forms are used, very striking effects may result. If printed on a film instead of sensitized paper, a third "negative" may be obtained, which, when printed again on paper, will show the lines in white instead of black. If printed on very hard paper, pure black and white designs can be obtained (page 16), faintly resembling drawings with pen and ink, but still preserving the photographic character.

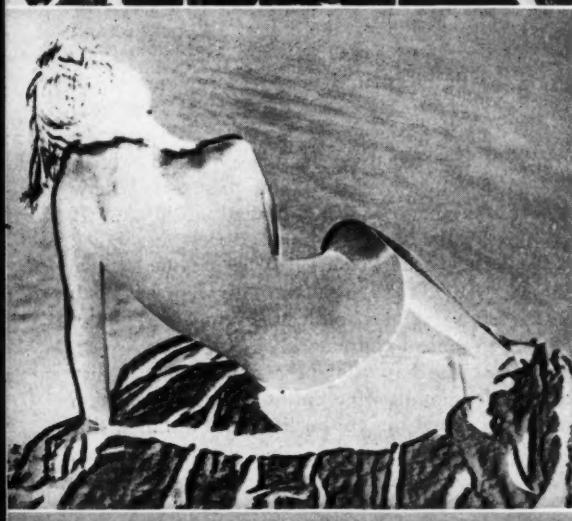
The bas-relief process has great ability for emphasizing forms. If a composition is based mainly on lines and outlines, this



THE STARTING POINT for a series of creative designs from a single subject. A simplification by means of lighting: unbroken shadows help to hold the forms together, while highlights emphasize their outlines. Taken on a cliff against the neutral background of the sea. Pan film, no filter. A straight print from a straight negative.



A SECOND VARIATION. Instead of making a positive print on paper it was made on FILM, a positive transparency. From the positive transparency a straight print was made on paper. The simple beauty of the pattern of light and shade is exploited fully, for our eye does not beg of us to consider a "lifelike" photograph.

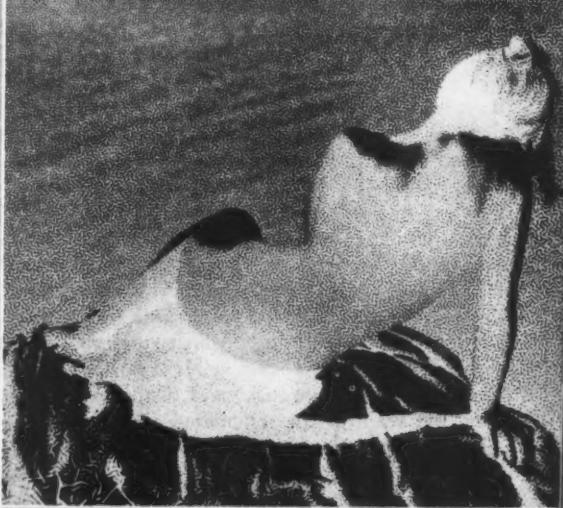


A BAS-RELIEF PRINT, which combines the above two prints. After making a positive transparency on film it is put emulsion facing emulsion with the original negative. Moving the two slightly out of register, the print or enlargement is made. The result is a "Bas-Relief"; a clarifying of forms by clearer definition of their outlines.

A NEGATIVE BAS-RELIEF. The bas-relief print suggests its own use as paper negative. A striking contact print results. The exposure given has left just a suggestion of detail. Slightly longer exposure would result in a still different type of variation in which the form would be suggested only by the high-light outline.



RETICULATION USED CREATIVELY . . . a positive transparency made on film was exposed to conditions conducive to creating a reticulated emulsion. A print from the reticulated film has an unusual screen effect. Some forms of reticulation follow the outlines of the picture very closely; forms it takes are unpredictable but capable of most artistic variations.



A POSITIVE PRINT made from the print above, used as a paper negative. By enlargement or reduction of the final print the grain or tooth of the reticulation can be increased or decreased. A combination of a positive transparency and a negative one can be used to make reticulated bas-reliefs. And solarization can be added to the processing, providing an almost endless variation in possible effects.



treatment can safely be applied. Being the most "graphical" of the three processes, the best results will be obtained when proper use of contrast control has reduced the tones in the final print to three or even only two shades: White, medium-gray, and black; or simply black and white. The stronger and simpler the motive, and the fewer, bigger and clearer its forms, the better will it fit the requirements of the bas-relief. Silhouettes always turn out very well; motives containing many undecided forms with unsharp borders and few contrasts will always be disappointing.

The Second Graphical Process: Reticulation

Put a negative in water and heat it up gradually; watch carefully the effect on the negative and see, how the emulsion begins to crack and break up in a regular pattern, like a screen being superimposed on the design. Shut off the heat shortly before you want to stop the process, then very slowly pour cold water into the vessel, without creating disturbances in the fluid, and let the whole thing cool off. Take out the negative, dry it and print it. The result will be similar to a picture enlarged through coarse texture screens; but where a screen breaks up the design of the motive in a most disturbing way, the grain of the reticulated negative will follow it organically, and will be small and dense in the parts that are light, and wide and big where the design is dark. In case you want the outlines more prominently pronounced, make a contact of this negative on film, and print the two together in accordance with the instructions given for the bas-relief process (see picture on page 19).

Reticulation affects the planes, but doesn't demand either contrasts or sharpness of contour. Whenever you would like to use a screen, or print on very rough paper, reticulation will give you about the same result in a more photographic way. Depending on the time of treatment in warm water (longer or shorter), the grain can be kept more or less pronounced. If a very fine grain is

desired, the negative to be treated should be large (if necessary, make an enlargement on film); if a very coarse grain is required, reticulate a smaller negative (if necessary, make a reduction on film) and enlarge from it. As reticulation may end in disaster, take the precaution of never risking a valuable original; make duplicates instead (on direct-duplicate film) and experiment with them.

The Third Graphical Process: Solarization

After having the negative developed for about $\frac{2}{3}$ of the regular time, expose your negative (it's advisable to use a duplicate) for a very short time to white light (depending on source, the distance between bulb and the sensitive material; find out exactly how long by making tests). Continue the development for a short time under safelight, until negative just has turned black, then stop the process, fix, rinse and dry as usual. This operation can be applied to the paper negative or print.

If broad and powerful lines are wanted, solarize on film, don't develop too long for second time; if you want to get the very finest design and pictures that almost look like engravings (motives with plenty of fine detail—hair!), make a solarized paper negative from which to print.

Solarization is the graphical process that gives the most striking results of all three techniques described, provided that the negative to be treated has been taken with proper understanding for the peculiarities of this process. Consider from the start, that when solarizing a negative, the lightest parts in the setting will be least or not at all affected, and that the shadows later will turn to a grayish white. Make use of this knowledge when balancing the composition, and if you want to include the face in your picture, take care to light it strongly enough to withstand the solarization.

Try creative processes in your search for the unusual. Photography from text books is reproduction, and has its place, but the new and the unusual must come from imaginative minds and clever fingers.

END.



OPEN-FLASH action shot: one midget bulb.

The camera is pressed against the face to help prevent jarring. The shutter release is operated by one finger. →

By H. L. DEAN

THE RAPID FLASH of the Mazda Speed Midget SM flashbulb will produce open-flash pictures which are just as effective under certain conditions as those made with a shutter speed of 1/200 second. Any camera with a "time" or "bulb" setting may be used. The shutter is opened, the lamp flashed and then the shutter closed.

For rapid operation, with the shutter speed set on "bulb," quickly open the shutter with the first finger, holding the camera with the other finger, instantly fire the flashbulb (held high and to one side in a reflector in one hand), then immediately close the shutter. The split-second flash of the bulb thus becomes the important factor in exposure instead of the shutter speed.

(Page 97, please)

FLASH*

ACTION WITHOUT SYNCHRONIZERS

THE SIMPLEST BOX CAMERA WILL DO . . .



PHOTOFETCH SM (Midget Type Reflector)

	Shutter Speed	Flash Number
Film A	Open	140
1/50	140	
1/100	140	
1/200	—	
1/400	—	
1/1000	—	
Film B	Open	100
1/50	100	
1/100	100	
1/200	—	
1/400	—	
1/1000	—	
Film C	Open	70
1/50	70	
1/100	70	
1/200	—	
1/400	—	
1/1000	—	
Kodachrome Type A	Open	50
1/50	50	
1/100	50	
1/200	—	
1/400	—	
Kodachrome Prof. Type B	Open	30
1/50	30	
1/100	30	
1/200	—	

In these tables, "Film A" refers to any film rated at Weston 64 tungsten. This includes Agfa Superpan Press, Dupont Superior 3, and Eastman Super XX.

"Film B," Weston 32 tungsten, includes Agfa Superpan Supreme, Dupont Superior 2, and Eastman Plus X. "Film C," Weston 16 tungsten, includes Agfa Panatomic X. These recommendations are for average conditions.

The aperture is determined by dividing the flash number by the lamp distance in feet. For example, when using a flash number of 110, the correct aperture at 10 feet is 110 divided by 10, or f11.



VIBRATING ELEMENT
PROVIDES TRUE
"UNIVERSAL - FOCUS"

"SHIVERING" LENS

THE DOTTED LINE (above) shows the Electroplane attachment on a Mitchell camera.

ALTHOUGH THE LIVING EYE, with its elastic lens, can rapidly focus objects at varying distances, optical engineers have looked askance at many ingenious proposals to accomplish this purpose in a photographic lens. But a four-element motion picture lens has now been designed in which one double-concave element is electronically oscillated on its axis by means of a special cell mounting developed by P. Stanley Smith, a New York radio engineer.

The new lens is confined to a distance of three-tenth of a millimeter in its axis movement but the oscillations are at the rate of 23,200 times per minute, thus continuously altering the focus so that all objects are uniformly in register from *four feet to infinity*, although all objects are slightly softer in focus than with lenses of a fixed focal length.

Smith, following the work of Dr. Ludwig Dieterich, an Austrian-born engineer,

who patented a mechanical method for vibrating a lens element, designed an electronic method of achieving this purpose and has successfully incorporated the lens in a motion picture camera which it is believed will offer greater flexibility in motion picture photography and direction.

Fitted to Standard Camera

The Electroplane Camera is an adaptation of a standard 35mm. Mitchell motion picture camera mechanism fitted to a special base which is designed to receive the "Detrar" lens and its driving motor. This camera is equipped with an *f*3.2, 50mm., 4 element lens of special design.

The lens is designed so as to permit such movement without change in image size and results in the registry of an in-focus image and an out-of-focus image of every object before the camera, which being super-imposed, the out-of-focus image is masked and covered by the in-focus im-

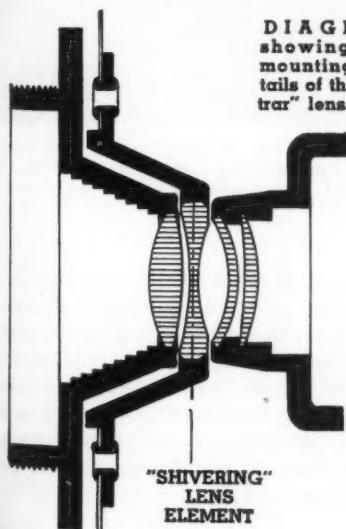
ENT
E
US"

WITHOUT and with the special lens attachment. The distant objects are fuzzy in the first film strip and sharp in the second.



age. The lens motion is caused by an exciter field and moving coil system, the coil and the lens being coaxially mounted on a diaphragm, the construction of which permits it to yield without tilting along the axis of the system when a current

D I A G R A M.
showing the
mounting de-
tails of the "De-
trar" lens.



"SHIVERING"
LENS
ELEMENT

either direct or alternating is applied to the moving coil. Apart from the lens action described, the camera is standard in every respect.

The lens's control, which receives 60 cycle A.C. 110 volt power is designed to supply audio frequency of low power to the moving coil and direct current to the exciter field of the camera, this in turn causing the oscillation of the lens.

Range Selective

Further controls permit the "blending" of both the audio frequency and direct current supply to the moving coil whereby the use of predetermined calibrations cause the lens to register in focus any selected range before the camera, for example, 4 ft. to 8 ft., or 6 ft. to 12 ft., or 8 ft. to infinity, etc., with all other planes out of focus.

The new electroplane camera, holds promise of being the solution to one of the chief limitations in motion picture photography. **END.**

● WEATHER FORECAST: For APRIL



THIS SPRING PICTURE shows that even the worst weather makes swell pictures. It makes your feet wet just to look at it!

WEATHER that is hard on baseball, difficult for cyclists, or impossible for riding with the top down, may be ideal for photography. The ribald and unpredictable weather of spring offers picture opportunities that exist at no other time of the year. Dress comfortably for the outside conditions, and get some pictures that *are* pictures!

The important thing is camera protection. The old umbrella comes in very handy for protection, even though it isn't a featured fashion this year. Some resourceful fellows cut waterproof camera hoods out of oilcloth. These extend well out over the lens and rear of the camera, and are fastened with scotch tape at the sides of the camera.

No Bad Weather . . . Only Types of Good

By DONALD D. STORING



A PICTURE of a child walking into the morning light suggests the hope of a new day. The spring mist gives a mysterious touch.

Selecting sheltered sites, such as doorways, and carefully sheltering the camera with your body and clothing should protect it sufficiently. It is well to wipe away any droplets of water on the lens just before each exposure; this wiping should always be done with lens tissues or a soft lint-less cloth to forestall the chance of scratching the lens. Never use a hand-

kerchief, a paper towel, or the like.

Recent improvements in film speeds and other emulsion qualities have increased the scope of very moderately priced cameras. Now fine negatives may be turned out under adverse conditions and even during rainstorms. Although a modern, versatile camera is, of course, advantageous to have, it is not requisite these days

by any means. If you use a highly sensitized panchromatic film, such as Superpan Press or Super XX, an inexpensive folding or box camera will yield excellent results.

Exposures for dull days are not difficult to compute. Measure subject brightness with a photo-electric exposure meter, or obtain a *recent* exposure table for the film you will use, and follow it to the best of your ability, exercising good common sense. With a little experimentation you will find that you can judge light conditions with the best of them. Critical experimentation will do more to aid you and your particular methods and materials than volumes of written words. Don't change films because the first roll didn't live up to expectations; use the same type, master it, and know its capacities.

Subject material is presented in many forms. Reflections in puddles, or on glistening pavements, are perennially popular. For good, undisturbed image reflections wait until the rain has just ceased falling and the sun has shouldered its way out. The best reflection probably occur when the sun shows as a luminous disk through the misty skies.

The correct focus for reflected objects is the distance from that object to the reflecting surface *plus* the distance from this surface to your lens. Of course, cameras with range finders and ground-glass viewers automatically take care of this.

Many fine rainy-day pictures may be discovered along the out-of-the-way roads. There is something universally appealing in a print of a rain-soaked country road doing its duty. A horse-drawn vehicle or a farmhouse add interest to an otherwise relatively static picture.

Excellent picture-taking opportunities are offered by the slanting, persistent rain that makes people bend as they walk against it. The photographer can stand facing away from the wind, thus sheltering the camera with his body. And an interesting story-picture can be made of the sternly set umbrellas and the anguished (or comic) faces breasting the squall.

Many excellent and striking effects may be obtained on rainy nights. It is necessary, to use a tripod or some other means of supporting the camera firmly. A sun-shade (of all things!) to eliminate unwanted reflections and glare is also an asset for this type of photography.

(Turn to page 94, please)



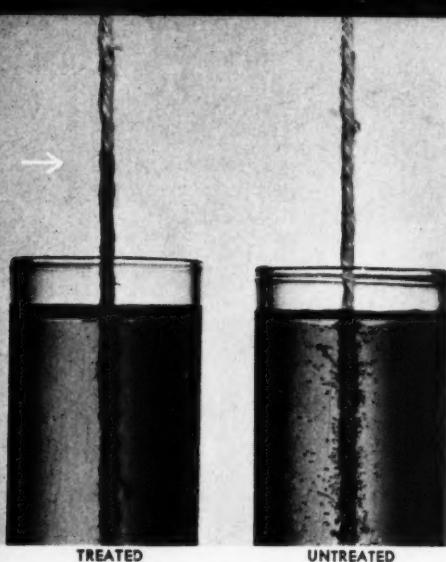
AN EXAMPLE of an "arm-chair" spring picture. Notice how the raindrops are accented by contrast against a dark background. A flood light was used to the left of the camera to fill the shadows.

A FOGGY NIGHT SHOT shows little detail, but succeeds in conveying a definite mood, with reflections on the sidewalk an important part of the picture. The photographer shot directly into the headlights of the auto without halation being objectionable.



PANORAMIC NIGHT PICTURES are especially interesting on rainy nights. Using a high speed film like Superpan Press or Super XX enables the photographer to get the best results.





TREATED

UNTREATED

A HARD, WATER-RESISTANT CORD was cut into two pieces and dropped into two test tubes. Each test tube contained tap water and a red dye (New Coccine, see page 46) to show climb, if any. The water in the left tube was treated with a wetting agent, the right one had none. The results are evident. The string on the left became quickly saturated, and capillary action was able to take place, the dye rise in the string indicating this. The decrease in surface tension has also changed the meniscus, and the surface of the water in the left test tube is flat. Air bubbles are in the water and attached to the string in the untreated solution. Photograph taken 2 minutes after strings were inserted.

By FRED KNOOP

WEETING agents have great photographic possibilities. They practically eliminate pinholes, water spots and streaks in negatives, and drying time is decreased sharply because there are no water drops or puddles on the drying negative. There is less danger of air bubble marks because of the smoother wetting of the film during immersion and because there are actually fewer bubbles in the treated solution. The action of the developer, short stop and hypo is hastened due to the quicker dispersion over the film.

There are claims that wetting agents produce more brilliant negatives, but it is thought that this conclusion may be a faulty one drawn from the affects of the greater speed of development of the treated developer. The film undoubtedly reaches a higher gamma in the same amount of time in the wetting agent

It makes WATER WETTER

treated developer, because of the quicker immersion and the remarkable dispersion over the entire film surface, and the seeming increase in brilliance probably is due to the increase in contrast.

Use For Prints

The use of wetting agents in print procedure is extremely helpful. The print that has been completely immersed in a developer containing a wetting agent has less tendency to curl out because it is thoroughly saturated very quickly, and even if it does curl up slightly there is little chance of the uncovered part showing a

**WETTING
AGENT MOLE-
CULE DIAGRAM.** water
soluble part
dips beneath
surface, oil
soluble part
stays above.
Fig. 1



How to Use Wetting Agents In Developing, Printing Reducing, Intensifying, Spotting, and Cleaning Photographic Glassware.

TALE OF THE DISGUSTED DUCK that sank after meeting up with a wetting agent. While cruising about gaily in the aquarium, upper picture, a wetting agent (Aerosol) was introduced.

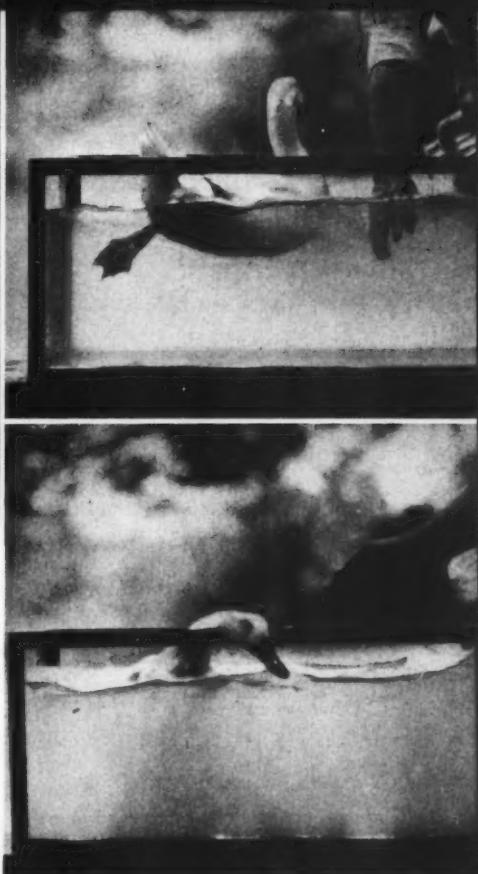
"What's this?" asks Donald. "I'm either torpedoed or this water has gotten a lot wetter."

"Gad, saved by a neck!"

WHY DOES DONALD DUCK SINK? (See page 95 for answer.)

lighter development, for the developer has already been absorbed and the action continues. The action of the developer, short-stop and hypo undoubtedly is hastened by the use of a wetting agent in print making, because of the quicker and better immersion. In the drying of the prints there is the absence of water drops and puddles, and therefore a quicker drying time.

The use of a wetting agent in spotting and retouching makes the spotting medium cover perfectly, even on glossy prints. In tests conducted by MINICAM, oil was rubbed on a glossy print, making it especially difficult for any water-borne retouching medium to cover, but the addition of a wetting agent made it stick perfectly. The use of New Coccine and opaque on negatives is also greatly facilitated by the addition of a wetting agent.



For applying color locally in Carbro, Flexichrome Wash-off and Chromatone color prints the brush is dipped in water which has had a wetting agent added and then blended with the color to be applied which goes on smoothly and covers perfectly.

Simple Test

If you want to prove to yourself how a wetting agent makes a film dry evenly and how it completes immersion quicker than a plain water solution, take a piece of film and cut it in half. Drop one piece in a plain water solution and the other in a solution containing a wetting agent. Notice how the film tends to float on top of the water solution, and how quickly it is covered in the solution containing a wetting agent. Then hold the two pieces of

(Turn to page 95, please)

ELISOFON TAKES

BOTH SIDES OF THE TRACKS



ELIOT ELISOFON is a staff
photographer for LIFE.

THE OTHER SIDE. Eliofon composed this picture so that the bare springs, the strong shadows and repressive symbolism of iron bars all tell their story. Exposure, 1 second at f8. Title, "Child Bride—Memphis."

"DON'T SHOOT JUST BECAUSE IT'S A PRETTY PICTURE," HE SAYS,
"—FIRST KNOW WHAT IT MEANS"

By ROBERT W. MARKS

ELIOT ELISOFON is a one-man revolution. Completely sure of himself—almost over-sure of himself—he has set himself the job of combining the esthetics of photography with technical precision and a social purpose. His pictures are brilliant, sharp, clear, dramatic—and at the same time pack uncompromising social punch.

"I can't look at a tenement," he once told me, "without wanting to tear it down." It's hard to find a ready label for his pictures, because the work is truly





THE GLAMOUR SIDE. Not wanting to be typed as a detailer of only the wretched aspects of human life, Elisofon has made it a point to seek assignments also on the "other" side. Title: "Sea Nymph," from the surrealistic show, "Dream of Venus," by Salvador Dali at the New York World's Fair.



THE GOVERNOR

THIS PAIR of illustrations was made during Cleveland's relief crisis. Elisofon, being socially minded, dramatized the gulf between "victims" and "authorities". Opulent surroundings typify the governor's station. One light was used on each side of the camera. Placing the right lamp offside allowed the one eye to remain in shadow, creating a slightly sinister effect. Elisofon said he sought to accent the well-fed quality of the man who suspended relief payments and to imply an air of self-satisfaction. This contrasts with the kerosene-lamp illuminated shot below.

A RELIEF VICTIM



catholic, embracing almost every phrase of modern reporting, documentation, and abstraction.

He Has Drive

The most significant thing about Elisofon as a man and Elisofon as a photographer is his drive. He's as restless as a hyena. He accomplishes ten times as much work as the average photographer. He thinks it, breathes it, eats it—and will supply you, at a moment's notice, with a ten-page dossier, explaining why every Elisofonish shadow and each hunk of debris is precisely where it is.

Every picture is interwoven with his own private theory of art and social purpose.

"I have no time," Elisofon once told me, "for pictures that don't say anything: if something doesn't say anything, don't photograph it."

Traditionally, he stems directly from Lewis W. Hine, who did more than any other American photographer in exposing the consequences of poverty, want, child labor, and subsistence living. Hine died last year in privation and neglect—honored by only a few sensitive-eyed, among whom Elisofon was conspicuous.

In his weekly assignments for *Life*, this attack is made abundantly clear. If he shoots a mining scene, for example, where strikes and lockouts have corroded the lives of the people he has been sent to shoot, Elisofon will maneuver his camera in such a way as to highlight the privations and problems of the miners—and to accent the smugness and cynicism of the foremen, the directors, the company cops.

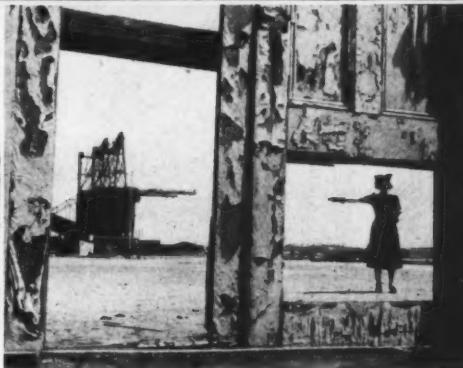
Tragedy Is Grim

One of his greatest pictures is "Child Bride—Memphis" (page 30). Here was tragedy and grim reality. Elisofon has dramatized the drabness, the emptiness, and the hopelessness of the scene. In this shot, as in his other pictures, wherever it is possible, he has retained the feeling of the original lighting in the room. No auxiliary light was used here; the criss-crossing shadows are part of the natural light of the room, dimmed slowly by Elisofon with a patient exposure.

In his fashion and glamour shots, he has introduced the same kind of dramatic treatment—a treatment that would have credited the stages of the old Moscow Art Theatre of Stanislavsky.



THESE ARE a couple of Elisofon's first attempts, from the portfolio which he first showed to LIFE in order to "sell" himself. His flair for satire is seen in the contrast of a pretty girl in unpretty surroundings.



HE WAS interested in viewing abstract paintings about this time, and the effect is seen here. There was, also, the intriguing contrast between the angularity in machinery and curves in a feminine figure.

Look at some of these shots . . . spread out as they are over the following pages. The natural prettiness of each girl and her native chic are violently contrasted with the squalor of slums and the rubble of a dead-end street.

Many of the modern fashion and glamor and news photographers have been satisfied to catch mood and action—feeling that these were ends in themselves. But not dynamo Eliot! Crispness, composition, social significance, must be added. Toward this end, he would set up his 9 x 12 cm. Linhoff on a shock-proof tripod composed, if need be, on the ground glass, and shoot carefully and accurately.

No "Empties"

It's a point of pride with him always to use the whole negative. "Only a man who doesn't know what he is doing," he claims, "has to do his composing on an enlarging easel."

"Does this mean," I once asked him, "that you throw your hat in with the congenital non-croppers?" "Not at all, I crop Rollei shots," he answered, "I'm not congenitally opposed to anything except empty pictures. I think that if you know what you are after, you get it the first time."

In spite of this fact, he uses his cumbersome Linhoff like a cross between a ma-

chine gun and a Contax. He can cock a Compur shutter the way Buffalo Bill used to fan the hammer of a Colt "45." Meanwhile, with his left hand, he keeps shuffling out the tabs of his film pack. The result, on occasion, is a series of action shots that look something like the work Gjon Mili might have turned out with a stroboscopic lamp.

Elisofon uses a wide spread of lenses with the Linhoff to make sure of adequate negative coverage—7.5, 9, 11.5, 15 and 18 cm. For work under more difficult conditions, he leans on his Rolleiflex . . . and a Contax. In order to minimize film problems, he sticks as a regular procedure to Super XX for all cameras and all problems.

Multiple Flash

At this stage, he is considering a shift to new equipment for field work, proposing to abandon the Linhoff—which is primarily a compromise between a view camera and a news camera. He plans substituting the Speed Graphic for the rugged phases of news work . . . and the Graphic 4 x 5 View camera for tripod work.

One of Elisofon's strong points is multiple-flash work. His favorite set-up for portraiture is two bulbs, parallel with the camera, each hitting the subject's face at



PLAY FIELD. Bowling on the Green in Canada is a picturesque sport, and Elisofon showed it to be so. This picture, as well as the one on the next page, was taken not as a disinterested landscape, but as a straight news shot in the course of a regular assignment. Elisofon has the conscientiousness of an instinctive social reformer.

a forty-five degree angle. One bulb he usually puts on a stand; the other he holds in his hand.

"If anybody asked me how to go about taking pictures," Elisofon once said, "I tell him to go to the museums and look at paintings. The greatest instructors any amateurs can have are the great painters of the past and present. He says that the greatest single influence on his own work was the Flemish painter, Pieter Brueghel, the Elder, who always captured the spirit of those he painted.

"If you look at any of my group shots," he said, "you will find the same kind of figure massing that Brueghel used, and the same kind of contrast between subject and background."

Whether or not Elisofon has been in-

fluenced to the degree that he believes, is a debatable point. If you think about anything long enough, sooner or later your own personality and your own technique will begin to reflect it, and certainly he and Brueghel have many things in common, including a rare sense of humor.

One of the great weaknesses of most makers of pictures is that they don't think enough about picture-making. Too often the picture composes itself. The photographer snaps away . . . then later makes a choice of evils among his many hodge-podges.

In this connection, Elisofon has a sound program to offer beginners. Translated into a simple rule, it would be this: "Look at as many paintings and photographs as you can—never be afraid of copying someone



PLAY FIELD. Elisofon couldn't resist pairing this and the previous illustration to contrast a playground for the rich with a playground for the poor. In these pictures, he used a small aperture ($1/16$) in order to get depth of field for near and far objects. At the same time he seeks to get mental depth.

who is a master. What you get will never be another Brueghel or another Rembrandt, but at least it will be something outlined by a conscious idea and shaped by a concrete pattern. In the end, what you will really find, of course, is yourself."

East Side, West Side

Elisofon was born about thirty-one years ago in a broken-down New York East Side tenement. His father was a hat-worker, prematurely aged in sweatshops. From these things he derived, naturally enough, an intense hatred both for tenements and sweatshops.

His whole youth was spent in flats which had neither hot water nor bathtubs. On Saturday nights, the family lined up for a quick dunk in the kitchen sink. Elisofon

began to work after school at 15. "After high school I made Fordham University for a B. S. in four furious years of night school," he says of his education.

His first real job was in the Civil Service; dealing with poor people, many with limbs lopped off, who came in with compensation claims. All of this deepened his already-ripening social consciousness. And out of the small salary he earned, he managed to support his family.

Meanwhile, for no particular reason, he bought a camera and started taking pictures. A friend prevailed on him to boycott the corner drug store and develop his own negatives. In time, he meandered through the inevitable lanes of the hock-shops, looking for camera bargains. He made the

kind of purchases we all make in the process of coming of age . . . and took up photography seriously, turning out the kind of sentimental snow scenes which filled the pages of the photographic magazines in days gone by.

One day a group of modern artists fell on Elisofon . . . hammer, claw, and easel. "Why don't you stop trying to be Maxfield Parrish," they said, "and go out and make real photographs?"

No Postcards

"Out of sheer desperation and self-defense," Elisofon admitted, "I stopped shooting the things that belong on calendars and penny postcards . . . and discovered that the camera could also record the real world—with its drama, its overtones, and its struggles."

Time passed. He pooled his cameras and equipment with a couple of other camera wayfarers . . . and plunged into the uncertain world called "free-lancing." Tramping the streets, sitting outside advertising offices until cleaning women dusted him off with the other fixtures . . . he got his share of those catalogue and publicity chores that net ten dollars a throw.

Elisofon starved; but he learned meanwhile how to turn out clean prints, well etched with detail and sharp lines.

Then . . . one significant day . . . he began documenting the side of life normally reserved for the Salvation Missions, the Clean-Up Squads, and the New York *Times'* roster of the "100 Neediest Cases." Suddenly, an unexpected twist stormed his mind: "Why not," he said, "bring pretty girls here . . . wind them around the junk piles . . . hook them up to the wrecking cranes?" On page 33 you will see one of these shots . . . a slim, slight, long-limbed model framed by the wreckage of a derelict shanty.

Soon he had a half-ton load of startling prints. Hauling them to the offices of one of the fashion magazines, he was amazed to hear the art editor say, "You ought to have an exhibition . . . take these to the Julian Levy Galleries."

Elisofon did; the prints clicked; a batch was taken on consignment. Turning to himself, Elisofon said, "Maybe I'm good."

What followed is the keynote to the whole Elisofon personality: logic and drive had a shotgun marriage. "If I'm good," he argued, "without knowing anything . . . what'll I be when I know everything the other guys know?"

The Shotgun Marriage

Immediately he quit his two-by-four commercial stints . . . and got down to the serious business of self-analysis, experiment, and development. He worked on his mechanical techniques until every phase of photo-journalistic work was as simple and efficient as the daily business of brushing his teeth. He looked at and analyzed the angles, the grouping, the lighting, the technical tricks of every outstanding modern photographer. He got himself to the point where he believed he could do anything everybody else did . . . if not better.

Then, boldly and no whit abashed, he walked up to the editors of *Life* and said, "Here I am."

Storming this well-garrisoned bastion with his battering-ram personality, he at last got a hearing—and a trial assignment. And that was all he needed. Taking the bit-assignment literally as a "bit," he put it in his teeth and broke into a gallop. And, strangely—to everyone but Elisofon—his work lived up to his promises, his confidence, and his boundless expectations.

Now He Travels

For two years Elisofon has been traveling to remote ends of the earth . . . specializing in social reportage . . . for *Life*. His nervousness, restlessness, and drive, seem to increase with time—as does his self-consciousness, self-analysis, experiment, and self-approval.

His apartment is a mirror of these traits. Loaded down with modern paintings, modern sculpture, pieces of old tree stumps, which have what he calls "wonderful design." Here and there are accents given by old prows of ships, picked up in odd places; by the hundreds of shelves



AN EERIE NIGHT SCENE that Elisofon shot while traveling through the Bad Lands on a trip west. It was an 8 second time exposure on his 6 x 9 Linhof. "I was so excited as we traveled through this area," he says. "the night quality was fantastic and I simply had to try to capture the scene right then; the same scene was quite ordinary by daylight."

storing Elisofonana, and by unique bits of photo equipment.

And, ironically enough, as his material success grows, Elisofon's social notions grow, in direct proportion. The other day we were talking about some playground shot he did a few years ago. "Here's an empty lot," Elisofon said, holding up an 11 x 14 print "Look at that fence . . . the fence keeps the kids out, makes them dodge trucks, get run over." "So?" I said, academically. "Well," he said, "that's why I took the whole damn series: whenever I see a fence—I see red." **END.**



ELISOFON AT WORK. Left, focusing his 9 x 12 on the shock-proof tripod he designed. Right, special suit used in Douglas Aircraft cold chamber, where temperature drops to 100 below zero. Actual photo was taken through glass panel after flash bulbs were arranged inside.



1. UNDER EXPOSURE
UNDER DEVELOPMENT



2. UNDER EXPOSURE
NORMAL DEVELOPMENT



3. UNDER EXPOSURE
OVER DEVELOPMENT



4. NORMAL EXPOSURE
UNDER DEVELOPMENT



5. NORMAL EXPOSURE
NORMAL DEVELOPMENT



6. NORMAL EXPOSURE
OVER DEVELOPMENT



7. OVER EXPOSURE
UNDER DEVELOPMENT



8. OVER EXPOSURE
NORMAL DEVELOPMENT



9. OVER EXPOSURE
OVER DEVELOPMENT

THERE is nothing handsomer than a technically perfect negative. Such a negative has detail in the shadows and tone separation between the various light and dark areas. The nine negatives illustrated on the previous page show the effect of varying exposure and development.

(1) Underexposure—Underdevelopment

The first indication of underexposure is a decided lack of visible detail in the shadow areas. When the negative also is underdeveloped, the highlights also are weak. The negative is quite hopeless. Note the lack of density in the hair area of the negative illustrated on the previous page. Also the weak separation of highlight densities from the rest of the tones.

(2) Underexposure—Normal Development

Again, lack of density in the shadow areas indicates underexposure. The normal development has built up the middle tones and highlight densities, but details in the shadows are unimproved.

(3) Underexposure—Overdevelopment

On this case, a negative occasionally appears to be properly exposed and developed. However, the prints probably will lack quality, especially if the underexposure has been great. Such a negative is often difficult to detect; although the highlights are of normal density, the shadows are weak.

(4) Normal Exposure—Underdevelopment

When exposure is normal, the density in the shadow areas is visible even though not thoroughly developed up. An underdeveloped but normally exposed negative has recognizable shadow details. The middle and highlight densities are weak; it is flat in contrast.

(5) Normal Exposure—Normal Development

The ideal negative. It is one in which good shadow details are present and in which the separation of all tones is easily discernible all the way from shadow to highlight.

For contact printing, the negative generally is exposed and developed somewhat on the heavy side. For projection printing, the negative is held as transparent as possible without running into underexposure or underdevelopment. The reproductions on bottom of page 40 illustrate the general difference between a negative for contact printing and one for enlarging.

PHOTO-DATA CLIP-SHEET

HOW TO "READ" NEGATIVES

(6) Normal Exposure—Overdevelopment

Normally exposure provides correct good shadow detail but excessive development causes excessive density in the upper middle tones and highlights. This type of negative is not difficult to print from, since soft paper can be used. Therefore, this is not as serious a trouble as underexposure or underdevelopment of an overexposed negative. Overdevelopment, however, increases the negative's graininess.

(7) Overexposure—Underdevelopment

A negative of this type is generally flat in appearance, with density throughout all areas of the negative. The best clue to detecting such negatives is the flat character due to a lack of enough difference between highlight and shadow densities.

(8) Overexposure—Normal Development

This one is like No. 6 (normal exposure—overdevelopment) except the general density level is higher because of the greater exposure. Negatives not too greatly overexposed should be normally developed. Overexposure increases graininess and flattens contrast. The flattening tends to be selective, operating on the highlights first.

(9) Overexposure—Overdevelopment

This results in a dense negative with highlights widely separated from the shadows. The shadow areas, however, are filled with detail. In this type of negative, the separation of upper middle tones and highlights is seldom discernible. Visually, these go together as one heavy black area. Negatives of this sort are difficult to print; they should be treated in suitable reducers.

For additional illustration of negatives number 1, 3, 4, 5, and 6, please turn page.



1A. UNDER EXPOSURE
UNDER DEVELOPMENT

ENLARGED sections from some of the negatives illustrated on page 38. The general differences illustrated apply to negatives for either enlarging or contact printing.



3A. UNDER EXPOSURE
OVER DEVELOPMENT



4A. NORMAL EXPOSURE
UNDER DEVELOPMENT



5A. NORMAL EXPOSURE
NORMAL DEVELOPMENT



6A. NORMAL EXPOSURE
OVER DEVELOPMENT



A NEGATIVE for enlarging is preferably more transparent than one for contact printing. By keeping the negative slightly on the light side, the graininess is improved and there is less "loss" of detail and tones in printing. Moreover, the enlarging exposure time is held to a minimum.

THIS shows how much heavier a negative may be for contact printing.



PHOTO DATA CLIP SHEET

In some cases, it is easier to understand a negative by studying an enlarged image. For this purpose, see the illustrations on the previous page.

(1A) Underexposure—Underdevelopment

This negative (see illustration on page 40) has been greatly underexposed and underdeveloped. As a result, there are no details in the shadows and the highlights are very weak.

(3A) Underexposure—Overdevelopment

When an underexposed negative is "forced" in development, the highlights gain density, but the shadow areas are not appreciably improved.

(4A) Normal Exposure—Underdevelopment

A normally-exposed negative is identified by an examination of the shadow density, here, especially in the hair region and around the eyes. That the negative is underdeveloped is shown by weak highlight density, for example on the nose.

(5A) Normal Exposure—Normal Development

This negative is included primarily for reference purposes. It has good shadow details and nice tonal separation indicating satisfactory exposure and development.

When comparisons between negatives are made they should be on the same film stock. Comparing negatives on different stock may be inaccurate because manufacturers' film bases vary. The color of a negative also may be influenced by the developer. Therefore, these samples are offered as a general guide only. In studying your negatives it is best to make comparisons between negatives made with a single brand of film and developer to best gauge results.

(6A) Normal Exposure—Overdevelopment

When a normally exposed negative is overdeveloped, the overall density increases, but the highlights increase faster than the rest of the negative. In this larger negative it can be noted that the separation of highlights and upper middle tones is good even though the negative is overdeveloped. Had the negative been overexposed the separation of these tones would have been less apparent.



FOGGED IN CAMERA

SOMETIMES the effect of fog makes the recognition of negative shortcomings difficult. Above is shown how fog produced by light leak in the camera, dirty lens, light shining on the lens, etc., changes the character of an otherwise good negative. This type of fog is detected by noting that the edges of the



FOGGED ELSEWHERE

film are clear, whereas the image has a general overall veiling. When fog is caused by bad safelight illumination, improperly compounded developer, old film, etc., the film margins' edges are also fogged. (Above.) Both types of fog destroy negative quality.



N. Y. WORLD-TELEGRAM ACE William Greene's great shot of Owen of Brooklyn missing the ball, to put Cooney of Boston home safe in the 15-inning September 1st game.

PRESS PHOTOGRAPHERS

NEARLY 1,000 dramatic, artistic and glamorous prints taken by leading press photographers during 1941 have been submitted for the 7th annual exhibit being held at the New York Museum of Science and Industry, in Rockefeller Center, through April 12th.

Last year the exhibition attracted more than 100,000 spectators; it is held to acquaint the public with the work and identity of the men "behind the camera" in American photo-journalism. The pictures to be shown are those taken by members of the Press Photographers' Association, which include staff photographers of New York newspapers, press associations

and photo syndicates, while covering stories at home and on assignments, "under fire" in war areas. The show provides a pictorial review news shots of the most eventful year in history.

Pictures of great historical interest will be: President Roosevelt signing the Declaration of War; The Brooklyn pier fire; Mickey Owen committing his costly fumble in the World's Series; Joe Louis belting out Lou Nova.

Amateur photographers will be especially interested in entries submitted in the Pictorial and Feature classes representing the best in photographic technique, and an elaborate catalog will be available



SOME FUN! Morris Gordon of PM got this topical shot at Coney Island.

SHOW THEIR STUFF . . .

giving the title of each picture with exposure data as well as the name of the photographer and his affiliation.

The main prize is the Harvey Deuell Trophy, in memory of the late managing editor of The New York Daily News, who did so much throughout his career in getting recognition of the true value of the press photographer. The Trophy, designed by Mme. Suzzane Silvercruys, famous sculptress, is for the best picture in the show. This will be the third year for the award, the first year it was won by Harry Harris of the Associated Press; last year it was taken by John Hemmer of the New York News. The first photographer to

win the award three times will be given permanent possession of the Trophy.

Photographers who were winners this year in the various classes were: Joseph Costa of the New York News, William Stahl of the Mirror, Murray Becker of Associated Press, and Ray Platnick, Alan Fisher and Gene Badger of PM.

The exhibition proves that press photographers who don't have to meet a clip-second schedule can make action and pictorial prints that have all the technical quality of salon photographs and in addition have news value. For a reproduction of two of the winners, turn page.



"COAST ARTILLERY." First Prize Winner in the Magic Eye Class of the Press Photographer Exhibit was made by Gene Badger of P. M.



THE SET of prints show the firing of a 16-inch coast gun at Fort Tilden, from the first flash of fire to final black smoke cloud.





"JAP STINGERS" first prize winner in the Pictorial Class of the Press Photographers' Exhibition was made by Joseph Costa, of the N. Y. Daily News. The two Navy mosquito boats, the type that recently accounted for two Jap ships in Subic Bay, look like comets as they streak across black water.

NEW COCCINE . . . NEGATIVE SAVER

NEGATIVE RETOUCHING with a pencil is a tedious job. It requires special skill and practice, and worst of all it is a terrific time consumer. It is natural that amateurs have shied away from retouching of negatives in this way, and even professionals have sent their work out.

Now available is the dye long known on the European market as *Neu Coccine*, except that the American version is called New Coccine. In many ways this red dye is the answer to the photographer's fondest retouching hopes. It works perfectly on negative material and can even be used to remove complete backgrounds, if this is necessary. Unlike opaques materials it does not leave harsh edges. For small corrections and the usual type of retouching it is extremely easy to handle. Hair can be lightened, highlights can be strengthened. Lighting balance of a negative can be corrected.

New Coccine is available as a powder and sells at \$1.00 for ten ounces, which incidentally, is enough to last an amateur for years. It is dissolved in water and several different concentrations are prepared in a small palette or several small

dishes. Experiments have shown that the addition of a wetting agent will facilitate the application on the negative (see "It Makes Water Wetter", on page 28). The dye solutions are applied to the negative (moistened slightly) with small brushes or with a cotton stump, according to the nature of the work being done.

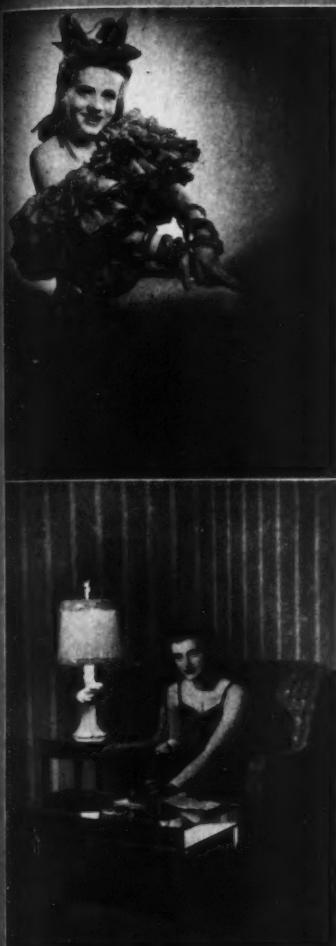
For retouching which requires the application of the dye over a large area, the cotton stump should be used; this is simply a blunt stick such as a match which has a piece of cotton wound around it. If you are just a beginner at retouching you can do your work on a sheet of celluloid, an unexposed and fixed-out film will do, bound to the negative with tape. In fact, retouching on a separate sheet of clear film is standard procedure for some of the best professional work. If you prefer to work on the film and still do not wish to take chances with your original negative you can make a copy negative from your original on a copy film. For retouching negatives smaller than 4x5 this is the advisable method.

An example of the way the dye retouching technique is used on large areas of negatives where detail is present but where it is too thin to be retained in prints, is shown in Figs. 1 and 2. In Fig. 1 the strong spot lighting has caused the lower part of the dancer's costume to be too dark in a straight print. By covering this area with New Coccine, using a cotton stump, the light is held back in printing and the print then shows all the detail, as in Fig. 2.

Another instance where light balance is incorrect for best effect is shown in Fig. 3. Here there is too much detail in the



A BRUSH AND STUMP combination is a convenient tool for applying New Coccine.



A DRAMATIC EFFECT was attempted (left). The lighting was not balanced and the print lacked detail in areas. FIG. 1



A WEAK SOLUTION of New Coccine dye was applied on negative areas that printed dark. The print (right) was made from the retouched negative. FIG. 2

HERE (left) a flash exposure proved to be too strong. Dye solution is applied to central part of the negative. FIG. 3

THUS the central portion of the negative is held back during printing. This result (right) is the illusion of a picture made by a single table lamp. FIG. 4

surrounding objects in order to give the illusion that the picture was made by light of the table lamp. In this case, the New Coccine is applied in the central part of the negative. The dye then holds back the light during printing from the face area while the surrounding area prints down heavily. The result, Fig. 4, gives the desired impression that the picture was made by the table lamp alone.

Hans Windisch recommends the use of New Coccine in a thin varnish, such as the glossing varnish that is used on prints. The different concentrations in this form are applied to the slightly moistened emulsion of the negative or copy negative.

This method requires more skill and should not be attempted by the beginner; its advantage is that it gives slightly more control over the application, in skilled hands.

A contact printer, with the white light turned on, makes a good stand for retouching. Or a piece of ground glass propped up on a book with a light behind it will work out very well. Of course, there are professional stands made just for retouching.

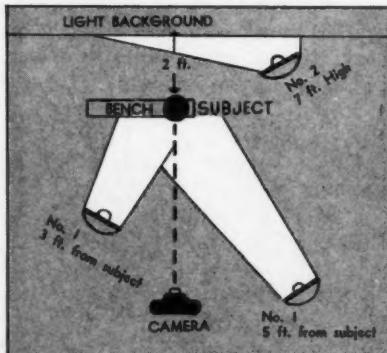
Dye retouching is the easiest method to make changes in negatives, and if you want the most out of some negatives you thought were not so hot this is the best way to do it. END.

Capture Fleeting



A "DOUBLES" SHOT needs the unity of interest present in this triangular composition.

By SYLVIA HOFFMAN

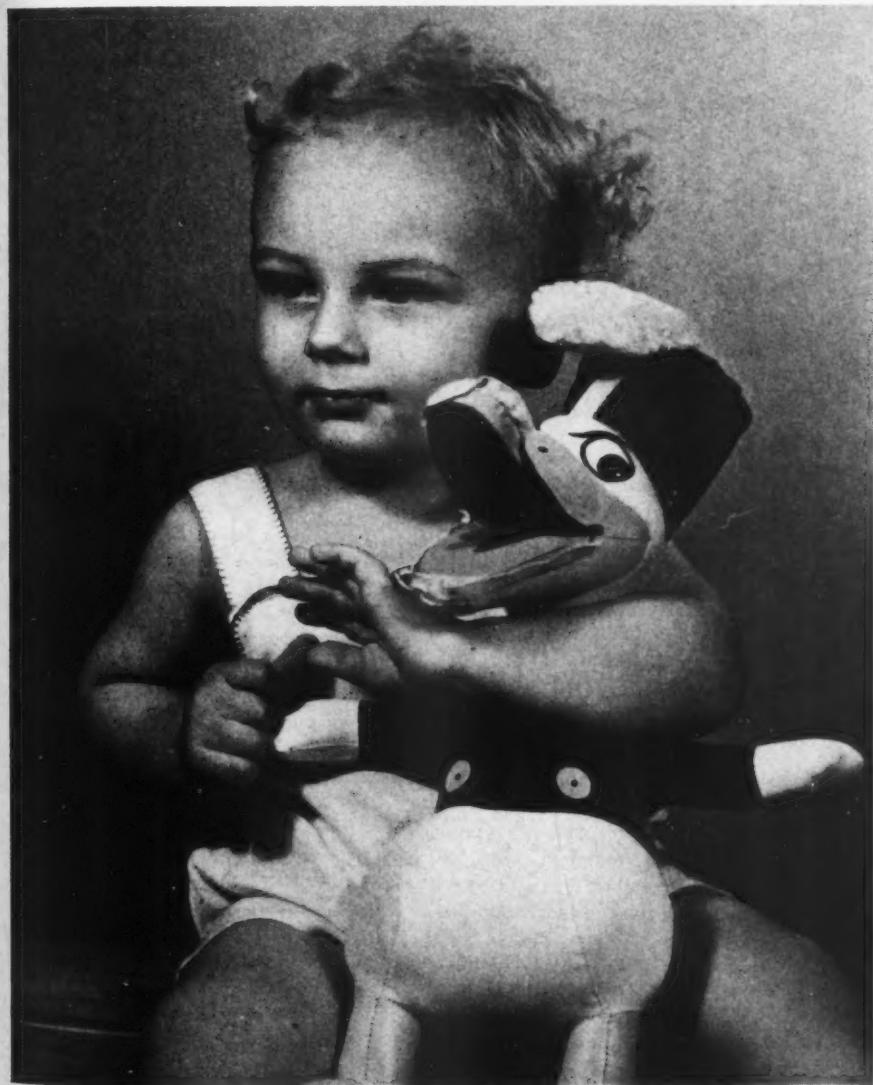


TYPICAL LIGHT SETUP used for photographing children.
Fig. 1

SPED is the secret for getting appealing "kid shots", in capturing the peak expressions of fleeting young emotions.

Speed in visualizing a picture, in camera handling, and in the camera are essential. A reflex camera loaded with Super XX film is most adaptable. Fast film enables the action to be stopped at 1/50 second without "burning up" the child with too much light. Strong lights make a child nervous, unnatural and very hard to handle. The reflex camera is ideal for this work, for it permits quick refocusing as the child moves and enables the photographer to take exposures in rapid succession, capturing many fleeting expressions.

Young Emotions



A SOBER, THOUGHTFUL EXPRESSION of a youngster with his favorite toy—the only "right" photograph which could have been taken of this child. Perhaps the toy could be better chosen—since it has almost a distracting entity of its own.



ALL THE
ANTICS
of a
circus
clown
brought
forth this
restrained
twinkle.

in a brief sitting; that just couldn't be done with a larger camera.

Lighting and background that are simple, natural and unconfused are best. Using a No. 2 photoflood bulb directed on a neutral-toned background produces the high-key quality of lightness and airiness that is so closely associated with young children. The regular 45-degree lighting (two No. 1 floodbulbs, one slightly nearer the subject, Fig. 1) is simple and effective. An additional backlitting may be introduced for children with unusually attractive hair. This lighting and Super XX film at f8 gives enough depth of field to render expressive fingers and chubby knees—



A TYPICAL CHILD SHOT.
It pleases parents, but
lacks subtlety.

just as important as the child's face—in sufficiently sharp detail.

The photographer's personality is an important point of consideration in taking children's pictures. A genuine fondness for children and infinite patience are required, and success won't meet half-way the kind of person who doesn't have them. Frequently a child will get in a rebellious mood. Call a recess; remove the fretful child from the posing bench, permit him to play for a few minutes, then return for a fresh attempt.

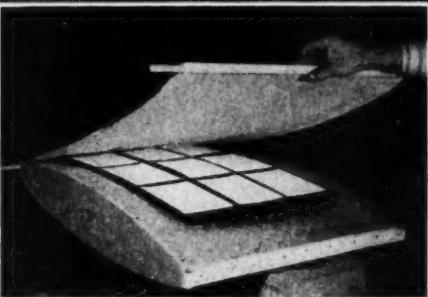
For drawing out expressions, a knowledge of the game and toy preferences of children of different ages is helpful. And don't be afraid to act young while shooting. Few infants up to three years of age can resist the time-honored "peek-a-boo."

Fine grain negative processing is important with miniature high-speed film. D-76 is satisfactory for 11x14 "blow-ups" from $2\frac{1}{4} \times 2\frac{1}{4}$ film if the temperatures throughout the processing is constant. Meticulous care in handling film to prevent scratches and pinholes is essential as negative retouching must be kept at a minimum on the small negative. Etching and spotting the completed print should give sufficient control over slight imperfections.

Finally, enlargement on fine-grain lustre paper through a sharp lens results in a sparkling child portrait that subtly speaks of lightness and fun.



LOW CAMERA ANGLE emphasizes curves and creases of plump baby legs.

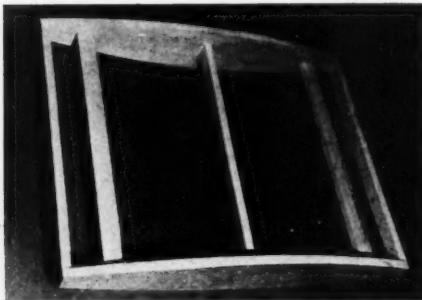


HERE IS A NEW TYPE PRINT DRYER that does a production drying job; it will dry single weight prints in 8 minutes, double weight in 10 minutes. After you get the materials to-

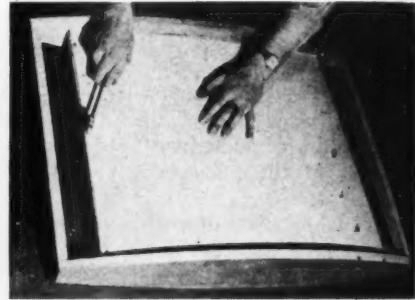
NEW PRINT DRYER

By VICTOR H. WASSON

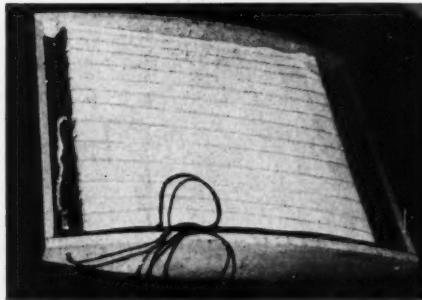
gether—they should cost not over \$2.50—the simplified construction makes it possible to put the dryer together in one hour. The dryer is designed to take a large ferro-type tin on each side (18"x24") or several small ones. While the prints on one side are drying the ones on the other side can be taken off, and new ones put on, thus keeping the process continuous.



1. THE FRAME is assembled from two elliptical pieces sawed from the 1"x12"x30" piece. Each of these is shaped 1 3/4" wide at the ends, 5 1/2" center. Cross members 22 1/4" long are cut from piece of 1"x2". End cross members are installed with long finishing nails narrow edges up; next two, flat sides up; center one, narrow edge up.



2. THE BEAVER BOARD is nailed in place over the inside cross members, curving it over the high center brace. The sheet asbestos is then wrapped around the center core which has been formed to provide a safe and insulated support for the nichrome wire heating element.



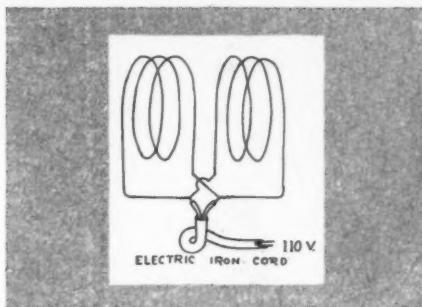
3. START IN ONE CORNER and stretch the nichrome wire out straight as you go, spacing about 1 1/2" apart. When three of the coils have been wound connect the two ends to the iron cord as shown in wiring diagram. Then wind the remaining three elements on and connect them as shown in the diagram.



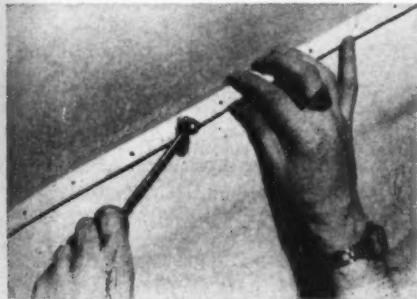
4. THE OUTSIDE of the frame exactly fits the 24" galvanized sheets. Fasten the sheets securely to the frame using ordinary lath nails. One sheet is fastened to each side of the frame providing TWO drying surfaces. Next make the tension curtains which hold the prints flat while drying.

Materials needed:

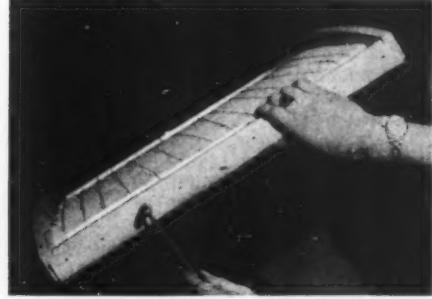
- 1 pc. white pine 1"x12"x30"
- 1 pc. white pine 1"x2"x10 ft. (this is the standard material used to make window screens)
- 2 pcs. galvanized sheet metal 24"x31"
- 2 pcs. Beaver Board 22"x25"
- 1½ yds. sheet asbestos 24" wide
- 6 nichrome replacement coils as used to repair small heaters, etc.
- 1 electric iron cord
- 2 pcs. canvas 24"x36"
- 2 ½" dowels
- 4 curtain hooks
- Some assorted nails and tacks



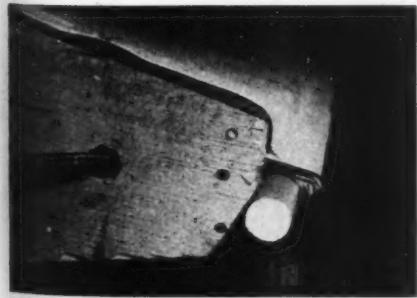
CONNECT THE three replacement coils of Nichrome wire to each wire of the iron cord as shown in the wiring diagram above. This will provide enough heat to make fast drying possible on both sides of unit.



5. ONE END OF EACH PIECE OF CANVAS is rolled twice around a dowel, which is cut 30" to allow an extra 3 inches beyond each end. Fasten to the dowel with a line of tacks, spacing the tacks an inch apart.



6. THE FREE ENDS OF THE CANVAS are now tacked to the dryer, so the dowels are on opposite ends, which makes them easier to use and fasten. The canvas should be tacked so that the dowel end will extend about 1 inch over the end when it is drawn taut, and hooked as shown in 7.



7. CURTAIN HOOKS are screwed in the ends of the side frames to hold the canvas taut while the prints are drying. In use the canvas is not unhooked until one is sure (by the absence of a moist feel) that the prints are off the tin. Unsightly drying rings can be prevented by this precaution.



8. THE FINISHED DRYER, ready to go. Supporting the ends on boxes or by hanging the dryer in the air will speed up the drying time by providing better air circulation. Since the heat rises, the upper side will dry faster, and the dryer should be turned over frequently during the process. **END.**



"DREAM CASTLE." Argus camera, Superpan Supreme film, f8, 1/50 second with yellow filter.

"DREAM CASTLE" proves that many pictures can be seen below eye-level; spotting this shot did take observation and imagination. There is something disturbing yet pleasing in seeing a building lose its arrogant stability in a puddle of water. Choice of composition is good, too, but perhaps it would have been better with the top of the building in the clear. A bit of camera juggling might have placed the reflection a bit to the right.

Pictures like this should be taken with the camera on a tripod so that the lens may be stopped down to insure sharp focus in the reflection as well as surrounding detail. There is a marked falling off of sharpness at the bottom of the print. A day with more brilliant light would have given it more brilliance; but you can't have everything. The tones in this print could have been improved by using a paper with more zip and developing as long as the paper would stand.

• TECHNICALLY, the picture of "Beatrice" is well executed. The skin tones are fine, and the sepia adds a soft and interesting touch to the portrait. Our white line indicated the best cropping of the print as it was sent in. It would have made a more pleasing picture if there could have been more background showing on the right side of the girl's head. We suspect that this unbalanced framing is due to the failure of the photographer to take parallax

Being Your SNAPSHOTS AND



"BEATRICE."
Taken with a
Retina indoors,
f8 at 1/50 sec-
ond.

into consideration when shooting this close up. Most view finders must be compensated for parallax in pictures closer than 6 feet.

• "THRU AN INFERNO" is certainly an apt title for this shot of the motorcycle rider heading into a fire bath, only we are left in a terrible state; did he get through it? The picture packs a real punch; the speed of 1/500 at f.9 stopped the action and got good depth of focus. It would be a good sports page picture in any paper. However, if it had been taken a split second later it would have shown the rider emerging alive (we hope) and that would have given more point to the shot.



Critical

HOW TO BETTER THEM



• "CRATER LAKE" is one of those shots of the mountains that makes us want to get in the car and start West—if we had a spare tire. And that is the true test of whether any picture is good. We have cropped it slightly in reproducing it, and in such a way that the trees make a frame for the distant lake and mountains.

It was taken with a Brownie 620 on Verichrome film. Its maker asks whether it is a contest picture or just a scenery picture. The answer to that one is, "Yes and No." A skilled print maker could take the original negative, frame the enlargement well, tone it a cool blue and have a contest shot. Some one else would still have an ordinary scenic view after they got through with it.

"BATH TIME BLUES." 1/25 sec. f3.5 De-tola, using Super XX Film.



• AN INTERESTING expression, and a very typical one of a baby just about to break into a good cry. The white line indicates how we would crop it to give more emphasis to the face. The slight out of focus effect could be caused by many things, probably the slow speed.



"YOUNG LADY." Camera: Kodak 620. Film: Super XX. Lights: 3 photofloods and overhead light against motion picture screen.

• WE MUST admit this is a flat picture. The main trouble of this portrait is its lack of contrast in tone values. There is too much white used and that makes the picture lack depth. It seems, the photographer was trying hard to "brighten up" his subject, putting on lots of lights, afraid the shadows might make her "look old," which was unfounded fear, since young girls can stand a lot of side-lights and dramatic lighting. Skin, background and sweater seem to be fading into each other. Why not try lighting from behind which would brighten up the hair? Why not tell the young lady, to moisten her lips just before the exposure to create flattering highlights in the lips. Above all, remember that a portrait needs shadows as well as lights.



"SMALL TEA PARTY." One Press 40 flash bulb, at 10 feet, f/16, 1/100 second.

• A GOOD COMPOSITION of several assorted elements. The dark shadows at the bottom of the picture hold it together. Slightly more dodging on the child's legs at the center and bottom would have been helpful. As it is now, the eye picks up this double spot.



KAMERA KWIZ

TEST YOUR PHOTOGRAPHIC KNOWLEDGE

AH, SPRING! If the official first day of Spring didn't bring that old feeling out of hibernation last month, some of this fine photographic weather that bathes the April landscape in free actinic light should certainly start the shutter finger to itching again. The Kwiz this month runs the gamut of photo lore, giving about even breaks to the taker, the talker and the negative maker. In any event, one new fact added to your fund of photographic knowledge, makes the Kwiz worth your time. In addition, it's fun.

4 This fellow has inadvertently slipped two filters on his camera. What two would prevent his getting pictures on even the fastest pan?

- Yellow
- Red
- Blue

Check two.



WHAT MAKES HOT SPOTS?

1 If every one of your flash shots had this "hot spot" you'd blame your:

- Synchronizer
- Bulbs
- Reflector
- Camera



2 Pictures that utilize an intermittent flash to show the progressive stages of action are known as:

- Speed shots
- Strobo shots
- Action shots



3 Was this faulty focus most likely caused by improper camera or enlarger operation?



A

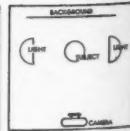
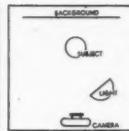
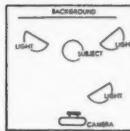


B



C

5 Two common ways of eliminating the unpleasant background shadows seen in print "A" were used to make "B" and "C". Pick the diagram used to light each.



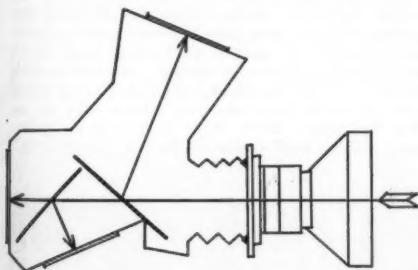
HOW TO MAKE WHITE LETTERING

6 We projected a reel of 16 mm film and found it to be all negative. Would you think that this was amateur or professional work?



7 These white legends are possible only by writing on the negative.

True False



8 This diagram illustrates the principle involved in a:

- One shot color camera
- Separation printer
- A range finder



9 With the enlarger head in the same position for both prints, you'd say that "A" was projected through a two inch lens and "B" through a four inch or vice versa.

KAMERA KWIZ

CONDUCTED BY
VICTOR H. WASSON



10 Papa is using type "A" Kodachrome; he'd better also use:

Daylight filter Blue filter Tripod

ANSWERS

Don't Peek! Check each question before consulting the answers.

1. An improper reflector will produce these "hot spots".
2. Strobo shots.
3. Although this shot includes subject matter from three feet to infinity NOTHING is in focus. Faulty enlarger operation.
4. The use of a yellow and red filter would admit blue. A blue and a red would admit green. Yellow and blue is your answer.
5. Print "A" was made according to diagram No. 2. Print "B" followed diagram No. 1 and print "C" diagram No. 3.
6. Professional cinematographers usually develop negatives from their film from which positive duplicates are made. Amateur film is usually "reversed", the film originally exposed in the camera becoming the final positive.
7. False. Sheets of glass or cellophane bearing the desired copy placed in contact with the paper when printed will produce these white legends.
8. One shot color camera.
9. "A" was projected through a two-inch lens, "B" through a four-inch.
10. A daylight filter is necessary when using Type A (Indoor) Kodachrome out of doors.

Six correct answers is passing; 7 is good; 8 or more makes you a teacher's pet.

How To MAKE YOUR

★ TUNE UP YOUR TRIPOD

MINICAM PRESENTS the first of a new and timely series of articles, "How to Make Your Equipment Last."

With new equipment difficult or impossible to obtain, photographers will have to depend, for the duration, on their present tripods, cameras, lighting units, and other equipment. Fortunately, the average life of a reasonably well-made photographic gadget is practically indefinite, if it is given reasonable care.

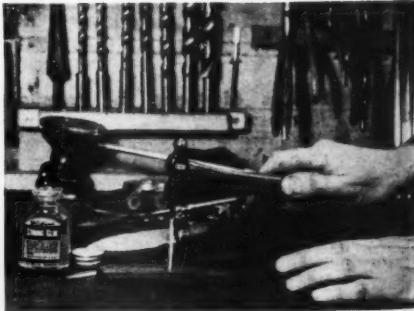
The first step in prolonging the life of a piece of equipment is to give it a general tune-up. Put it into first-class condition, and thereafter it will be easy to keep it that way. This month that sturdy foundation for unblurred still and movie shots, the tripod, is the subject of our rejuvenation.



1. TAKE THE TRIPOD completely apart. In doing this, use good wrenches that fit the nuts perfectly, and screwdrivers with square-end blades of proper size and you won't have damaged and unsightly nuts and screws when you are finished. And if you are not very good at remembering where this nut or that bolt came from, make a sketch, for reference when you reassemble the parts.



2. CLEAN NICKEL OR CHROME parts with a suitable polish, followed by buffing with a soft cloth. To clean badly stained nickel-plated surfaces: Put about 12 drops concentrated sulphuric acid in 1 oz. rubbing alcohol. Swab this solution on nickel with cotton wrapped around end of a stick, and let stand for 15 seconds. Rinse off with water, and polish with a soft cloth. Fine steel wool is as satisfactory as anything for brightening brass. Apply clear lacquer to preserve polish.



3. INSPECT THE LEGS of the tripod. If there are any cracks or broken places, glue them back together with waterproof casein glue, inserting wood or steel dowel pins if necessary. Lacquer can be used to refinish the legs but should not be applied over old varnish. One of most durable and easiest finishes for walnut and similar woods is linseed oil. Apply it liberally, rub it well into the wood, and let dry for 24 hours.

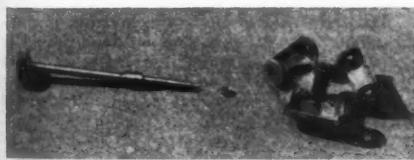
EQUIPMENT LAST!



4. THE ENAMEL on the head of the tripod shown had chipped away from the die-cast parts in ugly spots. The remaining enamel was removed with a stiff wire brush and an old knife. After taking the tripod head apart, examine each piece to see if damage is evident. Screws with damaged threads probably have ruined the threaded holes too. Drill the holes slightly larger, rethread, and insert new, larger screws to fit.



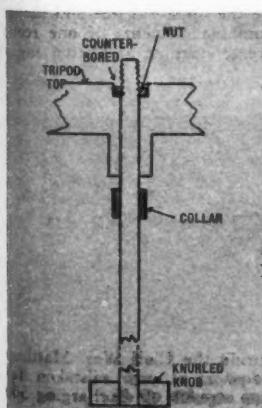
5. AFTER THE PARTS of the tripod head are free of the old finish, wash them in strong soapuds or lacquer thinner to remove grease, and repaint. If facilities are available, baking enamel can be used. Practically as good and a lot easier to apply is ordinary brushing lacquer or enamel. If a spray gun is handy, you can use automotive lacquer or enamel.



6. A WEAK SPOT in the design of many tripods is the screw that secures the camera. Frequently it is so short that the photographer must be either a contortionist or a freak before he can grasp it easily. The knob of the original screw on the tripod illustrated was broken when the legs did a spread-eagle on a tile floor. When the new screw was made, a sensibly-long stem was provided on it as shown in the photo and drawing, left.



7. A SPECIAL NUT that fits down in the counterbored hole in the tripod top holds the screw in place. Similar assembly can be used when overhauling other tripods. Tripod screws are $\frac{1}{4}$ inch in diameter and have 20 threads per inch.



8. THE TRIPOD after the monkey-gland operation. Looks new, doesn't it, in spite of its decade of constant service?

MORE FACT THAN FANCY

By Paul Hopkins

THE LARGEST camera in the world, when completed, will be the 200-inch telescope on Mt. Palomar, California. During the first four years of work on this huge lens, approximately 10,000 lbs.

of rouge was used and 5½ tons of glass was ground away. Incidentally, the rouge used for polishing lenses is ferric oxide, an entirely different substance from the cosmetic variety which is made from certain dried flowers or from carmine, a red dyestuff."

DURING the height of the dry plate era, cameras attached to the handlebars of bicycles were not an uncommon sight. "Wheelmen" (as cyclists were called) used to think but little of a jaunt of 20 miles out and 20 miles back with a dry plate kit weighing 40 lbs.



"THE DAGUERRIAN Journal" was the first photographic publication in the world. It was published in New York in 1850.

IN THE Dictionary of Photography by Thomas Sutton, published in 1858, Microphotography was described as "of little or no practical utility." Today Microphotography is a multi-

million-dollar industry. One of its most spectacular uses is in recording thousands of B. E. F. letters on 35mm film each month, which are flown from Libya to England at tremendous saving of transportation and mailing costs.

ONE OF the most famous dry-plate portrait photographers was Napoleon Sarony. It is estimated that Sarony made over 40,000 negatives of actors and other notable people during his career.



THE EARLIEST written account of the action of light on silver nitrate is by an Arabian philosopher known as Gerber in 777 A.D. (Gerber's real name was Yeber—Abou-Moussah—Djofer—Al—Sofi)

CONTRARY to popular opinion, bubbles in photographic lenses do not impair the quality of the image. This is because air and glass have about the same index of refraction.

ACCORDING to Daguerre, inventor of practical photography, exposures outdoor should be from "five to six minutes in summer and from ten to twelve minutes in winter. In the climate of the tropics two or three minutes should certainly be sufficient."



THREE-DIMENSIONAL motion-picture photography can lengthen or compress the depth of a scene, change the apparent size and shapes of objects and combine elements of one scene into another to create startling and often amusing effects.



AT ONE time during the Civil War, Matthew Brady's camera equipment was mistaken for "a great steam gun capable of discharging 500 balls a minute."

INSIDE

Hollywood

By DON M. PAUL

HOLLYWOOD TALENT SCOUTS, who roam the country seeking beauty, charm and photogenic often reluctantly pass up potential celluloid tidbits out of respect for the budget which Movie Moguls so diligently scan these days. Each screen test, it is estimated, costs between \$500 and \$900 to make when costs of transportation, grooming, makeup, film footage, technical manpower and studio usage are totalled. Mistakes in judgement on the part of talent scouts reflect on their ability, and resultant critical discernment usually limits talent prospects to a mere few.

Youngsters all over the country will have a better chance of crashing the films in the future if RKO's lead is followed by other studios. Casting Chief Ben Piazza of RKO has just embarked on an innovation of great importance. Talent scouts stationed throughout the country will hereafter attend all little theatre productions, radio programs and college and home talent plays in search of new movie talent. Now, however, they will be equipped with 16mm cameras, and will shoot Kodachrome on the spot instead of sending young hopefuls to Hollywood. The number of tests made will be increased a hundred-fold, and chances of amateurs going "big-time" will be widely expanded. If you see the same cinematographer at several events, he may be a talent scout, so watch out.

HOLLYWOOD "HEAVY" Marc Lawrence has played so many gangster roles in the movies that he is familiar with the reactions of tough guys under fire. That familiarity coupled with a stupendous hunk of luck, earned him one of the hottest reels of 16mm film recorded in the film city. Its authenticity makes it valuable as evidence, as research material, and most important, as a personal record of an amazing experience. Marc and writer pal Lewis Jacobs were driving downtown for a camera shopping spree when they heard guns popping and realized that they were witnessing the attempted robbery of a parcel post truck. Without hesitation, they stood up in Lawrence's coupe, and dodging wild gunfire, Marc shot a hundred feet of the robbery scene with his 16mm camera, including the final capture of the thieves, a block away, by the police, in a running gun-battle. Envy is great in Filmland for the remarkable luck and daring to stand and shoot film while others were shooting bullets.

WHEN LIONS breathe in your face, in screen travalogues, or elephants practically trample you, don't worry about the poor cinematographers. Bob Marino, who went to Africa with Osa Johnson as her photographer, and brought back stupendous charges of animal herds, gruesome king-of-the-jungle fights, etc., revealed to us what we suspected. All those noisy close-ups were taken from

some distant perch with telescopic lenses, and the howls and yowls were dubbed in. We still admire the artistic work that makes jungle scenes so realistic, but we're not scared for the poor guy with the camera any more.

LOCKHEED AIRCRAFT CORP. photographic department has a high speed motion picture camera capable of taking pictures at speeds ranging from 250 to 2000 frames a second on 16mm film, while recording on the side of each frame the elapsed time readable to 1/1000 second. The films may be screened by using an ordinary projector, when they give a slow motion picture, slowed 125 times, or studied frame by frame for analysis purposes. There are less than ten cameras of this type in the world. For use with this camera, Lockheed photographers led by Chief Joe Washburn have concocted a device they call a widger. It is a robot-like mechanism which touches off banks of flashbulbs in synchronization with each frame, thus providing sufficient light for fast picture-taking under all conditions. We are pleased to learn that defense is promoting photographic developments of this nature, particularly the flashbulb part.

ALLAN MOWBRAY'S numerous cameras, accessories and darkroom equipment are insured for \$10,000. He has paid the premium for many years, and has often looked longingly at his wide assortment of picture-taking devices. Only once in a year, however, has he been able to go out and shoot pictures to his heart's content. Movies and defense have kept him hopping. Every time he is "between pictures" he plans a photo expedition, and is immediately called back to the studio, or asked to M. C. a charity affair for national defense. Mowbray's twelve years of experience in picture taking and his love for fine portraiture makes him mad as a hornet that he cannot now find time to do that high-key stuff at which he excels. . . . Claire Windsor, raving beauty of former-day films, is a sincere minicam advocate. She does not splurge with color, just for show, but does quality work with black and white, has her own darkroom, shines in character studies, and could teach plenty of tricks of fine-grain with her Contax, to many gents with larger cameras . . . Maxie Baer loves cameras and is always near one, usually surrounded by beautiful girls, and almost always mugging. We saw him in Palm Springs following his usual routine . . . Ted Weisburg, MGM production manager just bought a 4x5 Speed Graphic, and Abbey gun, and a mess of gadgets . . . Ray Milland switches between his Super Ikonta B and his 8mm Model 90 Magazine . . . Franchot Tone tries every camera he sees, takes good pix, usually has a miniature strapped to his shoulder.



OUT OF THE LAB

TIPS FROM A TECHNICIAN'S NOTEBOOK

Invisible Ink. A comparatively simple solution to prepare that makes a good fluorescent marking material when viewed under an ultra-violet lamp is made as follows:

Water	1000 cc.
Quinine Bisulphate	90 grams
Sulphuric Acid	10 grams
Egg Albumin	15 grams

Such a fluid can be used to put normally invisible comments or data on backs of prints or on negative envelopes. It can be used to label special bottles or for any similar purpose where the appearance of data is either objectionable or where the datum is of a secret character. To make the writing visible it has only to be placed under an ultra-violet light source, such as a household sunlamp.

T—T—N

Screen vs. Print. It has always been a puzzle why it is possible to get a greater brightness range on a motion picture screen than it is possible to get on a print—even a glossy one. After all, the screen image is viewed by reflected light just as the print, but still a much wider scale is possible on a screen than on any kind of print. This problem was cleared up for me in a recent camera club talk by a representative from Agfa Ansco. The image on the screen is viewed in darkness; the black shadow areas receive practically no light at all since the only light they could receive would be from the projector. The transparency, being opaque in the shadows, prevents any light reaching the screen where the shadows are.

In viewing a glossy print the amount of light incident upon the shadow is the same as for the highlights. Since some light will be reflected that strikes any surface, the shadows in a print are bound to be diluted or grayish in comparison to a screen shadow that receives no light to reflect.

T—T—N

Selenium Toner. Here's a thoroughly tested selenium toner that gives the most beautiful brown tones, in the opinion of the writer, of any selenium toner yet devised.

Bleach prints, made on any kind of paper, in a regular potassium ferricyanide and potassium bromide bleach bath. The prepared bleaching powders sold by Agfa Ansco work well. Rinse completely in clean water and then tone in the following:

Water	100 cc.
Sodium Hydroxide	5 grams
Selenium Powder	1 gram
Thiocarbamide	3 grams

(This is the stock solution; it keeps well.) For

use, dilute the above solution with water in the ratio of 1 part of stock solution to 9 pints of water. Once the solution is used it does not keep.

T—T—N

Rodinal. New time-gamma table. Time-gamma data for Agfa S. S. Plenachrome and Superpan Portrait films are, as follows:

DEVELOPING TIME IN MINUTES

Developer Dilution	2	3	4	5	6	8	10	12	16
1:10 ....	.80	1.00	1.15	1.30	1.40	...	...	...	...
1:20 ....	...	.70	.80	.90	1.00	1.15	1.25	...	...

Superpan Portrait									
1:10 ....	.75	.90	1.00	1.20	1.30	...	...	...	...
1:20 ....	...	.70	.80	.90	1.00	1.15	1.25	...	...

The films were tray developed at 68° F.

The data concerning Agfa Rodinal liquid developer is possibly applicable to other concentrated developers of the paraminophenol type. This is being checked.

T—T—N

Light varies in intensity inversely as the square of the distance. That's a common statement in photographic literature, but it only holds true for point light sources. For line sources (a cylinder equally illuminated) the light intensity varies inversely as the distance—not as the square of the distance. And, for surface sources (plane surface equally illuminated) the intensity does not vary with distance providing the distance is small in comparison to the dimensions of the area of the source.

T—T—N

Make Your Own Filters. Colored cellophane has been suggested many times for making filters. The big objection to it has been its tendency to wrinkle and not form an optically flat surface in front of the lens. This can be overcome by placing the cellophane in clean water a few seconds or until it becomes limp. Then it is placed on a cardboard, or better, a metal mount, and fastened securely. When the cellophane dries it will shrink tightly across the opening of the filter mount, creating a perfectly flat and taut surface.

Minicam
PHOTOGRAPHY

Wielkane
EDITOR

PRESENTS
in 16 pages

THE
WORLD'S FIRST
SELF-SATIRE,
LAMPOON AND
BURLESQUE
IN AND ON
PHOTOGRAPHY

"Grinicam"

APRIL FIRST
(catch on?)



SPECIAL BURLESQUE ISSUE



REWARD!
This is Whodunnit.
ANYBODY SEEN HIM?

Grinicam

Contents

For APRIL



Next year: We will tell how this picture was taken. It shows a famous photographer in action. Note how thoroughly he has aroused the interest of his charming models.

Cover by Allan Richardson

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"Dear Reader" Dept.

Dear Editor:

Lay off those technical articles.

Dear Editor:

Hasn't the draft got you yet?

Dear Editor:

Grinicam? I never heard of it.

Dear Editor:

What kills me is not so much the crazy vanity of photographers, their egocentric mewlings, their eternally irrelevant explanations, their dreadful

Jack Dashem.

Sally Rand.

B. Mussolini.

manners and their boring conversation—not! What fills me with unceasing nausea is the fact that I never did like photographs.

Even when I was a small child I just hated them. On my tenth birthday some dismal relative presented me with a camera. I instantly traded it for a sling shot. I have no idea how pictures are taken, how film is developed or prints are made—it just doesn't interest me in the slightest.

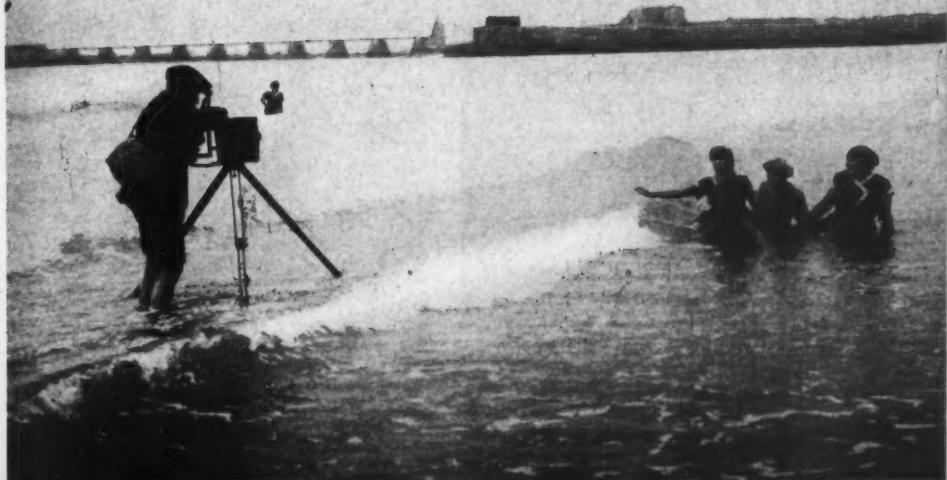
That is how I got my job.

What worries me is that I heard, "The Yanks are Coming." I'm getting packed for a long trip.

P. Tojo.

Tokyo, Jap.

THEN



PROGRESS through the ages...
PHOTOGRAPHY MARCHES ON



Now!



Step 1: How about a new wide-angle or telephoto lens? Not that a lens is necessary (see pinhole-camera in *Popular Photography*, box cameras in *U. S. Camera*, and hock-shop cameras, anywhere). Sometimes a lens is helpful. One can be made for 5c by anyone. Later you can buy a good one for \$60.

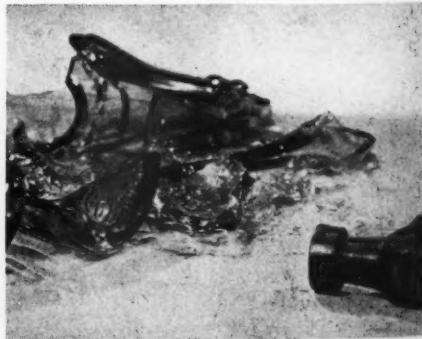


Step 2: Begin the Willinsink way by emptying a coke bottle and then holding it in this position. The dark color of Bought and Loan lenses is due to the persistent use of imported beer steins. Research is now being pressed forward (and downward) in certain soda fountains and other beverage establishments.

Why Bother With a Lens ??



Step 3: Joe Doakes is writing a book covering this important step. *Technical Data:* One Cola bottle (6 oz.) and 1 claw type hammer, 18 oz. size. Ball pein type hammer (17½ oz. size) also may be used.



Step 4: Well, what did you expect? Not an anastigmat to be seen. Not even a measly rapid rectilinear. Anyway, what could be prettier than a stack of broken glass for a fascinating table-top study?

Why Bother With a Tripod? ?



1. An obliging passerby can pinch-hit for the missing tripod if he wears a bowler. Select one with a swivel top.



2. Anybody can use a tripod. The genius will always insist on a substitute. It's more "de rigueur," if not "de trop".



3. Unless a piano has three legs, it obviously isn't a portable tripod. A good, Steinway can support a photographer.



4. Be sure to try this if you are Sonia Henja. Otherwise, you will find the piano easier to handle.

DARKROOM TECHNIQUE



FOR CROWDED darkrooms, hire assistants who can accommodate themselves to small spaces. (Left.)



WHEN YOUR photo assistant is not in use, store in a convenient container near a cool, dry place. If anyone says this is not a trick shot, don't you believe it. (Right.)

Encyclopedia of Photography LESSON I : HANDS



What photography needs is an encyclopedia. The main thing is to have everything in alphabetical order. Whether it makes sense is a trivial detail. Our encyclopedia will simplify photography greatly for those who don't know how to read, but file everything.

First, let's take "hands." Ever since the dawn of history, hands have played an important part in human affairs. If anyone is at all in doubt about the paramount significance of hands, let him remember that our speech is filled with words and phrases derived in some form from these important extremities. As witness, "Hands Across the Sea," "Hands Off," etc., to

say nothing of "Handsome is as Handsome Does."

I first became interested in college, where I took "Pre-hensile Extremities I, and II." In my work I noticed that the careful disposition of the fingers greatly enhanced the dramatic effects of my prints. Take the example on the next page. See how a picture which hardly would attract a moment's attention becomes vital by the careful photographing of hands. Obviously, no one would look at this picture were it not for the beauty of the hands, one of which is hidden, to add mystery, no doubt.

Warning: Don't wait for Lesson 2, "HANDS OFF."



LESSON 1: HANDS.

[69]

WHY NOT LET PALSY PAY?

? \$? \$? \$



The first attempt by a patient with intermittent shivers is not yet very promising. Although the technique is there, it lacks the "plus value" that we would expect in a true photo-painting, or painto-photog, by a genius like Lazlo Razy.

This neat gadget, the "Head-Aid," demonstrated by photography's pal, Will Connell (only known non-member of the group of west coast "Art" photographers known as "the-write-a-book-every-six-months, whether-you-have-anything-to-say-or-not circle") will make any model sit up and take notice. Its use will get noticeably different results.



Photographers' Palsy-Walsy



The final result, which puzzles the amateur and delights the pro. "How did he do it?"



THE INSIDE DOPE (DEPT.)



"Daddy" leaps into the air. This is especially easy if he is a circus acrobat. This technique is the invention of D. Dope, the conductor of this department.

"Mummy" climbs onto a pair of stilts and pulls Baby up after her. That's all there is to it. Study the picture at the top of the page again if you are gullible enough to believe that this method was used.



Photographers Ain't Lexicographers

By ZELLA L. ZILCH

A lexicographer, we all know, is a guy with a long beard who compiles dictionaries, beginning:

"Aberration: Unequal refraction or reflection."

But the dictionary I'm going to write some day will say,

"Aberration: Mental lapse caused by addiction to picture shooting." Or:

Aperture, Absolute: Hole left in budget by purchase of new photographic equipment.

Aperture, Relative: Hole

left in budget by touch from Uncle Joe.

Getting to the D's, we would become serious. For example:

Dope: Used in negative retouching. Also refers to photographers who disagree with your views on Mortensen. SEE: Dense.

Dense: The other guy.

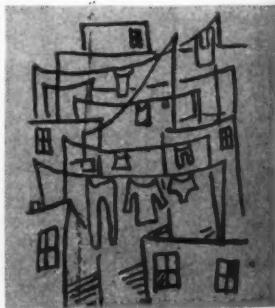
After the D's would come—but why give away these definitions for nothing? Instead, we will write our dictionary right now. Here goes:



ABRASION MARKS: Aftermath of climbing for camera angles.



ADDITIVE PROCESS: Habit of adding accessories to the "vest pocket" camera.



AERIAL PERSPECTIVE: An interesting type of perspective rendering, usually seen on Mondays.



AFFINITY: An affliction caused by passing camstore windows. Also "agitation".



BARREL MOUNTING: Elevated position for shooting. For sample of results, see "abrasion marks".



BROMIDE: Trite picture idea such as Central Park, etc., provided it was taken by someone else.



COVERING POWER: Measure of efficiency of the focusing cloth. Used with view cameras.



DISTORTION: Class in "model posing".



EXHAUSTION: Has to do with used up developers. Also the guy who mixes 'em.



GAMMA: Pleasant old lady who knows all about developing negatives.



HALATION: Prohibition of picture taking. **Anti-halation Backing:** Antidote for halation.



IMBIBITION PROCESS: Color printing method. Also result of unsatisfactory pix.



OIL PROCESS: Method applied to pictorial work of club members. Useful when running for office.



SPECIFIC GRAVITY: Attitude assumed by salon committee when judging their own prints.



UNDERDEVELOPMENT: Too skinny for the army. Sometimes result of long sessions in darkroom and studio.



ZONAL ABBERATION: Hysterical behavior which causes amateurs to rush into traffic to snap pictures.

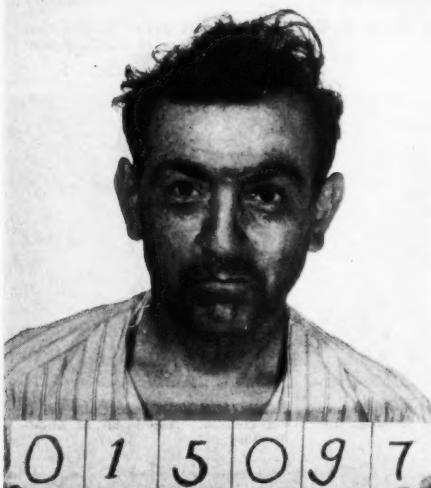


P. S.: Now you know everything.

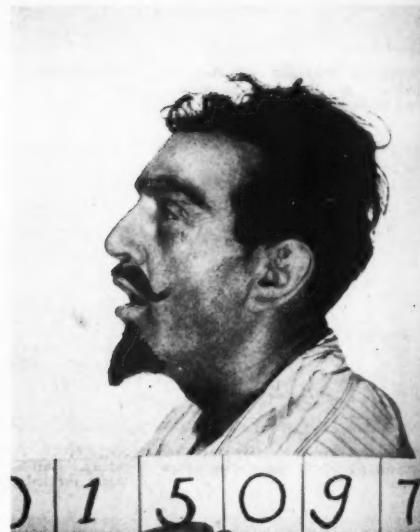


ANTI-HALATION BACKING: See "Halation". This is the sure cure.

RETOUCHING . . .



BEFORE. This portrait customer has a high license number. The professional photographer must treat him accordingly.



AFTER. Note how artistically the "5" has been retouched so as to enhance the design of the entire portrait!

By DR. EMIL ZODIAK

On the next page, some lessons in portraiture are given. As any old photographer can retouch portraits after taking them, I am reversing everything. Why not do your retouching first?

Be a man of vision. Consult a reputable oculist, who will show how retouching of this kind is bound to result in sensational rewards — especially if you read the "wanted" bulletins in your postoffice.

An ordinary retoucher starts out with retouching dope, desk, pencils, knives, graphite, megilp, etc. Not me. I start with the dope and assume

you know the subject. You can't expect me to know it. If I did, I would do it myself.

For my technique, all you need is a piece of crayon, a handy billboard or sub-way poster, and a sturdy pair of legs for the getaway.

Naturally you do not want to make portraits that are just portraits. Give every man his due, and then throw him a bonus. Don't let him throw it first.

Send your results to the crossword puzzle department of your local newspaper. If you collect for it, you're no longer an amateur and can give free advice on your own account.

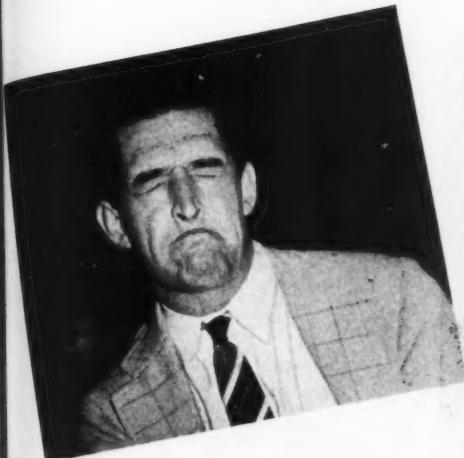


1. **The portrait** subject generally arrives slightly surly and uncooperative. But it is easy to bring him around to enlightened thinking.



2. **First** eliminate any trace of self-consciousness. This is a good exercise for it.

PORTRAITURE (*Secrets Of*)



3. **Flash a few** bulbs in his kisser. This will allow the point to be made that the appearance of the average map is boring to everyone except its deluded possessor. Notice how calm and relaxed he is getting to be—anyway he isn't throwing anything.



4. **The hot foot** is strictly off recommended lists. Also the sash weight applied gently but firmly smack across the shins. Not that they haven't wrought wonderful results. **P. S.:** Why not photograph your portrait customers from the rear instead? Everybody has seen the front, anyway, and is sick and tired of it.

How to be an Art-Director



Everyone knows that genius can be recognized instantly by certain tricks of behavior and costume. This one, for example, is No. 322a. The air of folksiness and homespun simplicity strikes a certain note.



Versatility is shown by playing a large reflex as if the operator can hardly wait to get home to his accordion.



Even a certain assumption of rowdiness is a welcome change from mild mediocrity. Club lecturers please note.



This is perhaps a little extreme but how refreshing for his colleagues to note that so-and-so is experimenting to find a style to suit his unique personality!



The speed utilized in this picture was unusual because of the unique circumstances. Model and photographer cleared the yard to safety faster than the 1/200 second click of Compur. Indications are that High Speed is OK.

Is High-Speed Here to Stay ? ?

A
Grinican
DIVIDEND

This page added for Nothing

SENSITOMETRY



By D. Deepdich Harumpfli

Everyone knows, a sensitometer is a simple thing to use. It follows therefore that everyone is simple.

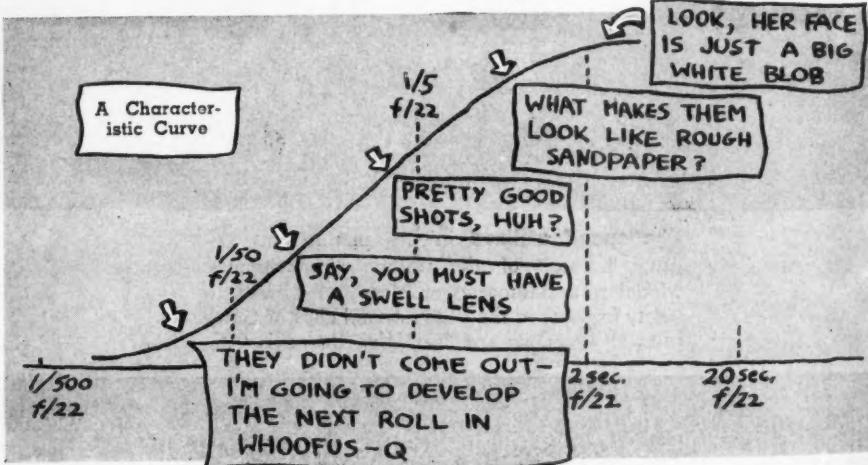
Expressed graphically (see below) to find the figure for the curve slope, merely increase the density corresponding to an increase of 1 in log E.

As I wrote in Photo Technique, Prize Photography, Camera Craft, and God willing, (which unhappily have discontinued), and as I will write and write elsewhere, a densitometer is a mighty simple thing to use. Other authors writing on the same subject have disagreed with me; they state that a densitometer is a relatively

easy thing to use. This, of course, opens up the whole question as to when is a densitometer a sensitometer, if any.

Ignoring the many sub-divisions, it is obvious that these classes are not sharply divided, but overlap. Sensitivity to all visible subjects requires the preparation of 28 percent acetic acid from the glacial form; or, to be more exact, by adding eight parts of water to 3 parts of acid, or is it 3 parts of water to eight parts of acid?

As I have now thoroughly covered the subject of characteristic curves, please refer to the diagram below, and you will see what I mean.



P. S.—POKING FUN AT PHOTOGRAPHY IS A PREROGATIVE RESERVED FOR PHOTOGRAPHERS



*A Graflex-made picture by Torkel Korling,
well-known photographer of children*

How to Make Better Child Pictures with Your Graflex-made Camera



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Observe the basic rules: simple lighting, an unobtrusive background, a short exposure on high-speed pan film—and split-second timing for just the right expression! "Watch the birdie" may do the trick, but if you like children and they instinctively like you . . . if there is an intangible bridge of common understanding be-

tween you . . . then your Graflex or Speed Graphic child portraits will stand head-and-shoulders above the crowd.

For facts about the photography of children, read Torkel Korling's chapter on the subject in the new Fourth Edition of *Graphic Graflex Photography* (\$4.00). For help in making beautiful enlargements from your negatives, get *Photographic Enlarging* (\$1.95). Obtainable at leading photographic and book stores. They will save you time, trouble and materials. And they can save you money, too, that you can invest in the future of America's children through the purchase of Defense Stamps and Bonds.

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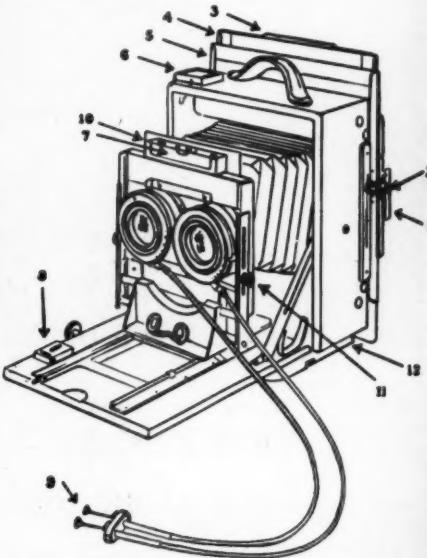
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"Elemental" Stereo Graphic Attachment

After photography's boom period of 1936 and 1937 stereoscopic photography showed various signs of coming back to its hey-day of the gay '90s. Eastman experimented with twin baby kodaks, braced together and synchronized to take two pictures of the subject at the same time. More recently Advertising Displays, a wide-awake Covington, Ky., firm, promoted stereo-photography by using a set of reflecting mirrors.



One of the newest ideas in stereo-photography is announced by Ellis & Beller, Inc., camera engineers at 125 La Salle Street, New York, N.Y. The conversion of your present camera to a stereo-camera is their basic thought. Because the 5×7 " Speed Graphic lens itself particularly well for conversion purposes we have taken it as the example to discuss here, but many new innovations and special features are needed for photographing a wide range of stereo subjects.

FEATURE NO. 1 (MARKED 1 AND 4)
THE MULTIPLYING BACK

The $2\frac{1}{4} \times 3$ " size is the standard 3 to 4 picture ration needed to give conventional screen proportions. The Multiplying Back makes possible two sets of stereo images on one 5×7 " film, thus reducing film cost by one-half. Since 5×7 " is a standard size, no difficulties will be encountered in securing color duplicates.

(Page 82, please)



PICTURE BY TONY VENTI
FLASH BY WESTINGHOUSE



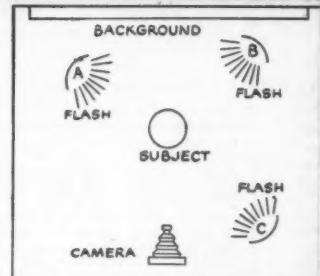
With a background of fifteen years in leading New York studios, Anthony Guy Venti is well known to advertisers and art directors for his sparkling fashion shots and for his action pictures of children and animals. A specialist in flash photography, he served as instructor at New York's famed School of Modern Photography.

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HOW TONY VENTI MADE THIS PICTURE

Data: 4 x 5 Speed Graphic, f/8 aperture 1/200 second. Fast pan film. Three Westinghouse Mazda No. 16-A Photoflash lamp were used. (A) 4½ feet from subject, located high. (B) 10 feet from subject, located high. (C) 10 feet from subject.

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FEATURE NO. 2 (MARKED 2 AND 5) "ELEMENTAL" RISING BACK

To avoid tilting the camera forward for securing more foreground, the "Elemental" Rising Back can be elevated. This avoids the distortion. The "Elemental" Rising Back makes it unnecessary to use so-called camera "swings."

Another advantage of this method is that front and back of camera remain parallel. It is not necessary to use a small diaphragm opening for sharp definition. Thus, the length of exposure can be shortened considerably.

FEATURE NO. 3 (MARKED 3 AND 7) TWO-POSITION LEVEL

To insure that the lenses as well as the film are in a level alignment, a two-position level is provided. Level plates are mounted on the top of the multiplying back and on the top of the camera front. The camera itself should be leveled first and then the level moved to the camera front for leveling the lenses.

As an accessory, if desired, a two-way level is mounted on the camera bed (marked 8 in the sketch).

When lenses with shutters are used the cable releases can be coupled to function as one unit. If desired, a stereo shutter can be installed back of lens board and can be operated by bulb or cable release. The regular focal plane shutter in the Speed Graphic is used for instantaneous exposures.

FEATURE NO. 5 (NOT MARKED) TELESCOPING PARTITION INSIDE BELLOWS

An adjustable telescoping partition springs into position when the bellows are extended to avoid the overlapping of stereo images.

The front section of the partition has a vertical adjustment for following the raising or lowering of the lenses.

FEATURE NO. 6 (MARKED 10) BELLOWS SLIDING ADJUSTMENT

By providing a vertical adjustment on the front of the bellows it is possible to secure the maximum 3" rise and fall of the lenses. This is particularly useful in short focus work when bellows are packed together.

FEATURE NO. 7 (MARKED 11) FRONT REBUILT FOR STEREO LENSES

The front of the Speed Graphic is enlarged to take a front board large enough for a pair of stereo lenses with 3 1/4" interaxial. The lens board is removable so that various focal length lenses can be used. The rising front adjustment is increased from 1 1/2 to 3".

FEATURE NO. 8 (MARKED 12) SPECIAL UTILITY BASE

A fixed base is added to the Speed Graphic which provides a larger surface to rest on the tripod. It also reinforces the hinge on the camera bed and has one 3/8" and two 1/4" sockets for the tripod screw.

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Raygram's Stereo Attachment

RAYGRAM CORP., 425 Fourth Ave., New York, N. Y., offers the Stereon Tripod Adapter and the Stereon Viewer which are designed to facilitate the making of stereoscopic pictures on 35mm. or bantam size transparencies by means of a single camera.

The Stereon Tripod Adapter is a substantially constructed metal device which is attached to the tripod in the same manner as a camera. The base is fitted to a track. After the first exposure is made, the camera and its supporting base are moved to the opposite end of the track and a second exposure made after a new section of film has been wound into position. The length of the track has been gauged exactly so as to provide the correct separation between the two viewpoints. It is this separation that gives the resulting pictures, when viewed in pairs, in the Stereon Viewer, the illusion of depth and roundness to which stereoscopic pictures owe their unique charm and value.

The Stereon Viewer is a metal viewing-box in which the transparencies, in pairs, are placed for viewing. The viewer is equipped with special achromatic lenses, mounted in an adjustable eye-piece to accommodate for differences in vision. The transparencies are completely enclosed in the viewer.

The Stereon Tripod Adapter lists at \$6.50 and Stereon Viewer at \$12.50. Combination Adapter and Viewer sell for \$17.50.

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To follow up their "British Commandos in Action" (Minicam, Feb. '42 page 78), Castle announces the dramatic filming of the destruction of the SS. Normandie and the bombing of Pearl Harbor in the film titled "Bombing of Pearl Harbor—Burning of SS. Normandie," available in five sizes and lengths.

Two more films Castle can be right proud of are "U. S. Navy Blasts Marshall Islands" and "Russia Stops Hitler." Both films show actual fighting scenes to present a front row seat in the war to the viewer.

"Adolf Hitler Doing the Lambeth Walk," a 16mm. sound-on-film release, is a humorous specialty poking fun at "Shicklegruber" and his goose-stepping Gestapo. It is distributed by Official Films, Inc., 425 Fourth Ave., New York, N. Y.

Raygram Corp., at the same address, has two new war films, "Our First Line of Defense" and "The Marines Have Landed." The cooperation of both the U. S. Navy and the Marines help to make these films outstanding.

Sound films covering machine shop work are being made under the supervision of the U. S. Office of Education, Federal Security Agency, and are being distributed by Castle Films, Inc. Films will be used in vocational schools and in industries where machine shop training is being given. Dr. John W. Studebaker, U. S. Commissioner of Education points out that "These films will assist potential and employed defense workers more rapidly to learn and more thoroughly to comprehend the instruction being given them in the vocational schools throughout the United States."

Bullet Spotlight

The new Bullet Spotlight offered by Fotoshop, Inc., is adjustable to any angle and can be clamped on the back of a chair, table, window sill, or any piece of furniture. It is constructed of chromium and lists for \$5.95. It uses regular No. 211 and No. 212 bulbs for 25c each.

Kodachrome Viewer, File

Two new products of interest to kodachrome fans are the Da-Scope Kodachrome Viewer and the Gem Jr. file, offered by Willoughby and Gem Photo Supply Co., respectively.

The Da-Scope measures 2 3/4 x 2 3/4 x 5/8", small enough for your vest pocket. Besides being compact it shows off kodachromes effectively. List price is \$1.95.

The Gem, Jr., a companion product of the Gem Super Slide File for kodachromes is announced by Gem Photo Supply Co. Measuring 7 3/8 x 3 x 2 3/4", and retailing for \$1.35,



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Kalart Flash News

A special flash unit for the Brownie Reflex (Synchro Model), including the Kalart Compak Battery Case and Extension Bracket together with a Connecting Cord, has been announced by Kalart Co., List price is \$6.75.

One end of the cord attaches directly to the camera and the other is attached to the Battery Case.

The Kalart Standard or Master Battery Case also may be used by means of the same Connecting Cord. The unit uses midget bayonet-base bulbs only.

The Eastman Kodak Medalist can be synchronized with the Kalart Automatic Speed Flash for use with flash bulbs. No adapters are required, although it is recommended that an extension bracket be used in connection with the camera.

Starts Second Semester

The Junto, Philadelphia's Adult School, started on a highly successful second semester in January with the inauguration of a course in photography. One of the instructors of the course is Norman E. Salmons, editor of Klein

(Next page, please)

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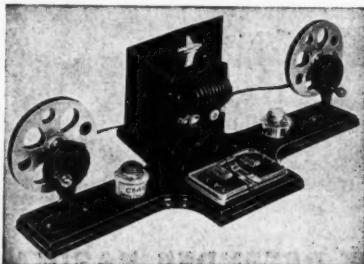
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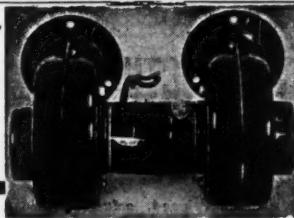
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Dufaycolor

Fotoshop, Inc., at 18 East 42nd Street, New York, N. Y., has been and again show they still are one of the pioneers in color photography by taking over the complete remaining stock of Dufay Film, Printers, and Chemical Sets from Dufaycolor.

It is good news to color fans to know that some of these products are still available at prices starting at 25¢ for any size roll film and ranging to 75¢ for 5 x 7 cut film.

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storage bottle. Then the developer in the tank is poured into the bottle until it is filled to original level. Any developer remaining in the tank is then discarded. This procedure is repeated after the development of every subsequent roll.

More than 40 rolls of 36 exposure 35 mm. film may be developed in the original quart of Edwal-20 when replenished in this manner, if not unduly exposed to air.

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An eight-week intensive training course in photography is offered by the N. Y. Institute of Photography, day or night. More information about this course is included in a folder which will be sent upon request from the Institute at 10 West 33rd Street, New York, New York.

School of Photography

A complete three year course in photography, including allied subjects, is available at the Rochester Athenaeum & Mechanics Institute, Rochester, N. Y.

Further information with a full booklet will be given upon request.

Moves to Larger Quarters

National Photo Laboratories, formerly at 55 West 42nd Street, New York, N. Y., are now located in new and larger quarters at 509 Fifth Ave., close to 42nd Street. Modern equipment has been added.

MOVIE NEWS

Moviquiz Makes Hit

From Bell & Howell's Filmsound Library comes word that Moviquiz, the new test-your-knowledge film game, is steadily gaining in popularity. Moviquiz is played by having contestants answer questions on a form ques-

tionnaire. The correct answers are then shown on the screen.

Quiz films cover such diversified subjects as sports, geography, news of the day, history, handicrafts, and nature study.

Hollywood Titleer

Designed by Hollywood Studio Technicians for 8 and 16mm. camera users, the Hollywood Titleer retails for \$9.75. Its features are that accurate alignment is assured with a custom-made camera base for your particular camera; all parts are adjustable on the Titleer base, making it ideal for table top copy work and ultra close-up photography; Titleer may be used on any tripod or suspended in a vertical position; it is complete with two auxiliary lenses, celluloid target, instructions and valuable tilting data.

BOOKLETS AND CATALOGS

Victor Directory of 16mm. Film Sources (50c) offers an easy method of locating sources of a film dealing with a particular subject. A copy can be obtained by writing Victor Animatograph Corp., Davenport, Iowa.

Filmsound Library's Catalog of Recreational Films (80 pages Free) lists over 1,300 subjects 100 of which are new. There is a complete index and sale-price-list with information on the 8mm. Rental Library. Copies can be obtained by writing Bell & Howell, 1801 Larchmont Street, Chicago, Ill.

Emby Drietherm Infra-Red Lamps and Drying Units (12 pages, Free) gives prices and complete information of products offered by Emby Products Co., at 1800-1804 West Pico Blvd., Los Angeles, Cal.



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CAMERA CLUB

— NEWS AND IDEAS —

MINICAM PHOTOGRAPHY wants to publish the best photograph submitted in any Camera Club Salon during April. Your club's prize-winning photograph should be sent to Camera Club Editor, MINICAM PHOTOGRAPHY, Cincinnati, Ohio, so that it arrives here no later than May 8th. The best photograph will be reproduced in the June issue. All prints will be returned if postage and envelope are furnished by the sender. Get your camera club members interested in this contest. Write for any other information.

Camera Clubs Can Help

At the request of Lt. Commander Steichen and the Museum of Modern Art in New York City, the Executive Committee of the PSA Board was represented by F. Quellmalz, Jr., at a recent meeting to determine how amateur photographers might cooperate with the government in this war.

Questionnaires have been mailed to approximately 8,000 camera clubs throughout the country. The purpose of these questionnaires is to organize a committee that will be responsible for surveying available photographers willing to volunteer for part-time war service; to see that assignments are efficiently carried out; and to initiate ways that local photographers may be of service to war agencies.

If your club has not received one of these questionnaires, air mail a request to Mr. Beaumont Newhall, Museum of Modern Art, 11 West 53rd Street, New York, N. Y. The Museum is acting as a depository for this information for it has the necessary facilities.

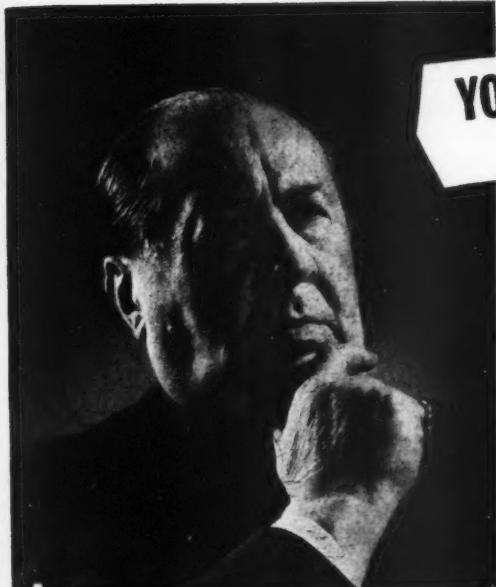
• The PSA announces the appointment of Arthur S. Mawhinney, A. P. S. A., President of the Miniature Camera Club of New York, as Chairman of the Pictorial Division, and Isadore A. Berger, of Detroit, as Secretary.

• Charles B. Charmatz, Detroit, has been elected Pictorial Editor and is writing a monthly column "International Salon Facts and Data," which lists the number of salons and print accepts of each PSA member. Gordon Kuster, Columbus, O., is the new Camera Club editor. Fred Gerrington, San Francisco, will head a department dealing with photographic news and notes from the West Coast.

War-Aiding Entry Form

The entry form of the Chicago Pictorial Salon, sponsored by the Chicago Area Camera Clubs Association, and to be held at the Rosenwald Museum, June 7th through 28th, is designed to help the sale of Defense Stamps.

Defense Stamps will be accepted as the entry fee so that the entrant will be helping the war effort. Also it will eliminate the contributor's having to pay extra for a money order or risk sending cash. It will benefit the committee by eliminating personal checks which are always a headache for them.



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• CO-OPERATE FOR DEFENSE. An appeal is being made by film manufacturers for camera users to return used film cases and metal spools. The government has restricted the manufacture of such materials for the duration.

Camera clubs, to promote this drive, can have a cardboard box in each meeting room so that members can drop used spools and film cases where they will do the most good.

• NEED SLIDE CONTEST JUDGE? Finding a competent judge for color slide contests is quite a problem, but not if you get the help of the Chicago Color Camera Club.

This club, which has developed a number of qualified judges, offers to judge slides for any club in the country. Slides must be sent prepaid, and will be returned collect. There is no cost for the service. Just before sending the slides, write R. B. Hornef, 846 Bradley Place, Chicago, Ill.

Send camera club news to The Camera Club Editor, MINICAM PHOTOGRAPHY. Copy for May Column must be received by April 8th.

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GADGET-HINTS AND SHORT CUTS

Speed Up Ferrotyping

The time needed to ferrotype glossy prints can be practically cut in half by the addition



of two items, a desk blotter and an electric light. After squeegeeing the prints to the ferrotype plate place a white desk blotter on top of them and apply pressure.

This takes off the

free moisture. Then place the light so that the radiated heat can strike the back of the tin. Using the light in a photo reflector enables you to direct the rays most efficiently.

Overhead Film Dryer

"High and dry," out of way and in the warmer air aloft, is the place for this film dryer improvised from a discarded lamp shade. Heat from the lamp, too, may be utilized for quick

drying. The wire clamp in the frame is reversed from its normal position, so that the frame hangs "up." —R. R. Coates.

*Prize Winning
ENLARGEMENTS*
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From *Photo News*, N.Y., 5 Dec. 1938

THAT "PROFESSIONAL TOUCH" which will give your Enlargements salon print perfection, can be easily achieved with FEDERAL ENLARGERS.

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A detailed technical illustration of a vintage enlarger. It features a large cylindrical lens at the front, mounted on a sturdy base with a bell-shaped support arm extending upwards. A smaller lamp unit is attached to the side of the main body. The entire apparatus is mounted on a three-legged tripod stand.

Inexpensive Darkroom Sink

A simple and inexpensive solution to the problem of providing a leak-proof darkroom sink is to make a wooden sink and line it with water-proofed fabric. Easy to make and absolutely satisfactory, you can have any shape or size sink you desire.

Make such a sink as follows. First, a box of the proper size and shape is made of ordinary "white pine shelving". A hole is made in one corner to accommodate the outlet fixture.

The box is lined with a medium weight canvas. Fig. 1 will show how the corners are folded. When the canvas sheet is brought up to the corner along both adjoining sides, a triangular double thickness of the cloth will be left projecting into the box. All of the inside surfaces of this piece are coated with the cement material described below, then it is tacked to the side or

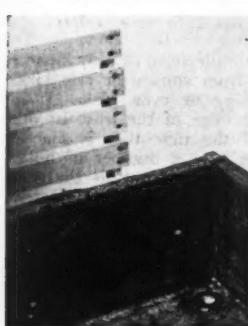


Fig. 1
end of the box
as shown. Use one-half inch copper tacks to fasten the canvas to the wooden box to eliminate the rust problem.

The outlet fixture may be obtained from a plumber for a few cents. A washbowl fixture will serve. The one shown in the photograph is part of the float fixture from an old toilet water tank. The top part of the fixture was cut off, leaving just the part which passed through the bottom of the tank. The canvas and the fixtures are liberally coated with cement and then tightened up with the nut.

After this is finished and the canvas trimmed nicely; the whole inside of the sink is coated with a waterproof roof cement or with roof coating. For this part of the job you can use a cement such as is used in cementing the laps in a "tar paper" roof. This costs about fifteen cents a pint at a hardware store, or you can use an ordinary black roof coating, such as Barretts "Liquid Flexigum." These coatings should be thoroughly brushed into the fabric with a stiff brush, but first be sure the sink and coating material are warm.

Since roofing cements are always flexible, it may be necessary to make a slat bottom from ordinary planed lath material. Two large sinks of this kind in the darkrooms of a camera club

HARD TO GET LENSES

50mm F1.5 Hugo Meyer Planar for Leica	\$ 95.00
coupled, metered with filter	
50mm F1.5 Letz Xenon (coupled, feet), for Leica	\$ 160.00
60mm F4 Letz Elmar (coupled, metered) for Leica	\$ 89.50
60mm F4 Letz Varob enlarging lens	\$ 10.00
80mm F4 Contax lens (chrome, feet)	\$ 160.00
85mm F4 Contax lens (chrome, feet)	\$ 89.50
85mm F4 Contax lens (chrome, feet)	\$ 138.00
35mm F2.8 Contax lens (chrome, feet)	
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Ikoflex I, Zeiss, F3.5, latest	64.00
Kine Exakta, F1.9, \$210.00; Tess. 2.8	174.00
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Mirroflex, Tess. 4.5, \$65; Biotessar 2.8.	138.00
Pentacon, F3.5, \$117.75; F2.8	125.00
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Rolleicord I, Tess. 3.5, \$77; Rolleicord II, F3.5	78.00
Standard Rolleiflex, Tess. 3.5, Comp. Rap.	108.00
Rolleiflex 4x4, Tess. 3.5.	68.00

35MM

Argus AIII, \$13.75; Mod. CC	23.50
Argus CII, \$23; CIII and flash	26.95
Bantam Special, F2	78.00
Contax I, Tess. 3.5, \$82; Tess. 2.8	92.00
Contax II, Tess. 3.5, \$154; Con. Flash Outfit	123.00
Contax III, Sonnar, Tess. 2.8	180.00
Kodak 33, F4.5, \$18.00; F5.6, \$12; F3.5	24.50
Leica F, Elmar 3.5, \$105; Mod. G F2	145.00
Leica G, Xenar F1.5, \$198; IIIB Summarit	219.00
Perfex 33, Coupled Rangefinder	21.00
Perfex 33, II, \$34; IIIB, \$34; IIIC, 2.8	45.00
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Perfex Flash Outfit, \$4.50; Eveready Camera Case	3.95
Retina II, F2.8, \$84.50; Xenon F2	95.00
Robot I, Tess. 2.8	68.50
Super Bantam, F2.9, \$42.50; Perfect Ideal, 3.5	12.50
Super Dolmar, Xenar 2.8, \$42.50	32.50
Univex Mercury, F3.5, \$14.50; E. R. Case	3.75
Weltini Xenar 2.8, \$69; F2	82.00

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For Contax—Sonnar F2, 5cm, \$84; Sonnar 1.5, 5cm	84.50
Sonnar 135mm F4, \$97; Sonnar F2, 85 mm	148.00
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MOVIES

8MM

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B & H Sportstar F2.5	61.20
Bolex camera latest brand new	184.00
Cine Kodak Mod. 20, \$22; Mod. 25, F2.7	32.00
Contax 35mm F2.8, \$110	110.00
Keystone K-8 F2.5, \$19.50; F2.5	24.95
Kodak Mod. 60 F1.9, latest	48.00
Magazine Cine Kodak, Mod. 90, F1.9	89.50
Magazine Cine Perfor Turret F2.5	44.00
Revere 88 F3.5, \$32.90; F2.5, \$33.50	
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Revere 20 F2.5, \$49.50; F1.9	54.50
B & H Filmo 8 brand new	177.20
Keystone CS-S, \$23.70; C-8	123.00
Magazine R-500, 500 watt	19.75
Kodascope Mod. 38, 500 watt	37.00
Revere Mod. 8, \$48.75; Mod. 85 Deluxe and Case	54.50

16MM

B & H 141 B F2.7 Magazine	73.00
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Cine Kodak Mod. K F1.9	57.00
Magazine R-500, 500 watt	19.75
Victor Mod. 4, F1.5 (1")	79.00
Victor Mod. 4, F1.5 (2")	169.00
Keystone CS-16, \$22.50; F2.75	123.00
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V.P. Exakta B, Zeiss Biotar F2, good condition.....	119.50
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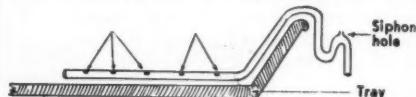
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to which I belong, have given perfect service for a number of years.—Dr. I. Clyde Cornog, University of Pennsylvania.

Self Starting Siphon

Hypo coming off of fixed prints drops to the bottom of the wash tray; prints will be hypo-free in a much shorter time if you remove the overflow water from the bottom of the tray instead of letting it come over the top.



Shown above is a simple form of tray siphon which can be made from copper or any kind of flexible metal tubing or even glass. It is shaped to fit over the edge of the tray. In the long straight part of the tube that is placed in the bottom of the tray a number of holes are bored as intakes. The part outside the tray has bends as shown and a small hole, indicated by arrow, which serves as the self-starter for the siphon.

Reducing Fogged Prints

To reduce fogged prints use the following solution:

Potassium iodide	130 grains
Iodine crystals	130 grains
Water	16 ozs.

This solution is poisonous. Wear rubber gloves.

Projected Picture Sizes

The figures inside the double lines (1" lens) indicate the preferred size for eyes near the projector; try always to maintain this relationship. For example: a 2-inch lens throws a picture 3'9" at 20 feet. If you want your audience at 20 feet and the projector 5 feet behind them, a 2 1/2-inch lens will give the same picture at that distance.

On 8 mm. Projector	16 mm. Projector	Lens Focal Length						Distance in Feet from Screen					
		Width of Pictures											
		1 "	3'0"	4'6"	6'0"	7'6"	9'4"	11'11"					
		3/4"	1 1/2"	2'0"	3'0"	4'0"	5'0"	6'3"	8' 0"				
		1 "	2 "	1'6"	2'3"	3'0"	3'9"	4'8"	6' 0"				
		2 1/2"	1'2"	1'9"	2'4"	3'0"	3'9"	4' 9"					
		1 1/2"	3 "	1'6"	2'0"	2'6"	3'1"	4' 0"					

Titling Areas

The following tables are helpful in determining the area to be used for home movie titles. They are based on the use of a fixed focus lens with supplementary lens for close focussing. If a camera with a focussing lens is used it should be set on infinity. Note that the strength of the supplementary lens is given in positive (+) diopters. These are easily obtainable as portrait lenses, known under various names, such as Kodak Portra Lenses. They are available in several series such as 1+, 2+, and 3+ diopters. They can also be obtained from a local optician.

The "Distance" column indicates the number of inches that the camera is set from the title, in each set up. The "Title Area" is given in Height and Width. It is not safe to use a larger area. You can find the margin which you will have surrounding your lettering by taking approximately $\frac{1}{8}$ of the "H" or "W" figure and dividing it equally between the top and bottom; or the left and right sides. A suggested proportional lettering height is given for each set up.

*Title areas with supplementary lens for:
12½mm lens—8mm Camera*

Supplementary Lens	Distance	Title Area H	Title Area W	Lettering Height
1+	39.4"	7¾"	10¼"	¾"
2+	19.7"	3¾"	5⅛"	⅜"
3+	13.1"	2½"	3¾"	⅜"

20mm lens—16mm Camera

Supplementary Lens	Distance	Title Area H	Title Area W	Lettering Height
1+	39.4"	10½"	14¼"	¾"
2+	19.7"	5¼"	7½"	⅜"
3+	13.1"	3½"	4¾"	⅜"

25mm lens—16mm Camera

Supplementary Lens	Distance	Title Area H	Title Area W	Lettering Height
1+	39.4"	8½"	11¼"	¾"
2+	19.7"	4¼"	5½"	⅜"
3+	13.1"	2½"	3¾"	⅜"

Where the amount of lettering will permit, it is better to keep the title within even a smaller space than the dimensions given above, for the height and width which is seen on the screen is slightly masked due to the fact that projectors have somewhat smaller apertures than the pictures on the film. These are standard, the 16mm being .284" x .380", and the 8mm being .129" x .172". Liberal margins on the title card also will eliminate the chance that the edge of the card, thumbtacks, etc., will show due to slight mis-centering.

The lettering of title cards can be done by hand, with the several sizes of type available on typewriters, or from the proof of a printer's type set-up. Unless you are trying for a special effect lettering is best when done on smooth white stock with india ink. This will give you black letter on a black background after the film is developed and reversed. If you want white lettering on a black background photograph your title on positive film and developed to a negative in high contrast developer. Colored paper, colored lettering and scenes can be combined with striking effects if you are using Kodachrome.

Model	Description	Price
WELTINI	12.9 Primoplan, ex. l.n. range finder, case, 1. n.	\$89.00
LEICA A	13.5 Elmar, range finder, ex. l.n.	115.00
LEICA F	12.2 Summar, case, like new..	115.00
LEICA G	12.2 Summar, case, like new..	145.00
TENAR II	13.5 f=100mm Tele. like new in fl.	115.00
ARGUS C2	12.9 Argus, coupled, case, 1. n.	119.50
ARGUS C3	13.5 Argus, coupled, like new in fl.	125.00
PERFEX 22	13.5 Scenar, coupled, 1. n.	29.50
PERFEX 25	13.8 Wollenak, coupled, like new..	32.50
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Weather Is Always Good

(Continued from page 27)

There is always the most favorable view-
point from which to take the picture. As a
general rule, you should not shoot directly
into a light source. Occasionally however,
charming or grotesque effects may be
produced by doing just that. Including
some interesting foreground, such as trees
and arches, can often be used to conceal
direct lights that might otherwise subtract
from the scene. The reflections of your
subject matter from the shining streets
should be included wherever possible, for
they best give the sense of rain and water.

Since the greater percentage of night
pictures are taken with exposures of sec-
onds or minutes, precautions must be taken
to prevent the bright headlights of pass-
ing automobiles, for instance, from spoiling
the desired effect. The shutter should
be closed (a cable release is recommended
to avoid jarring the camera) or the lens
should be covered with a dark hat when
unwanted light is introduced. The expo-
sure, in this event, is, of course, continued
from the time when it was prematurely
cut short.

Misty mornings touch apple orchard
and street corner alike with the mysterious.
The fine effects you can get make it
definitely worth getting up with the crack
of dawn.

Since the crispness and contrast obtain-
able in sunny-weather prints are lacking
in dull days, a correspondingly greater em-
phasis must be placed on an interesting
and harmonious arrangement of the pic-
ture. For misty, rainy scenes it is generally
considered good practice to have the com-
positional tones repeated or echoed and
logically (though not necessarily evenly)
balanced.

There are many miscellaneous studies
that are present for only a moment during
unsettled rainy weather: rain on the first
jonquil; water dripping into a rain barrel;
or a kitten picking its dainty way to avoid
getting its feet wet.

But these ever-changing and difficult
conditions are good news to the alert

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photographer who dons his rubbers and raincoat and goes out after pictures. It is his assurance that he will have a chance at a subject or a treatment out of the ordinary.

Wetting Agents

(Continued from page 29)

film up; see how the water bunches up on the film that has been in water and how it runs off quickly and leaves only a thin film on the piece that has been in the wetting solution. The commonest wetting agent is soap; it reduces the surface tension of water on the hands, and speeds up the wetting and cleansing action. Compared to soap, however, the new wetting agents that have been developed are miracle workers. Water can be made so "wet" that a duck can't float in it.

WHY DOES DONALD SINK?

(From page 29)

THE OILY FEATHERS, which formerly held thousands of tiny air bubbles, have become completely saturated and the bubbles have escaped due to the wetting agent having been put in the water. To DUCKS, wetting agents are not good news.



Chemically, the most practical wetting agents are complex organic compounds such as sulfonated oils, and sulfonated higher alcohols. But wetting agents may be acids, bases salts or other types of compounds. The essential property of a wetting agent is its physical characteristics. The molecule of a wetting agent consists of two parts, the water soluble part and the oil soluble part.

The water soluble part of the molecule dips beneath the surface of the solution—that is, it is directed downward. The oil soluble part stays above the water, and gives it the oily look. It is thought that this oil-like surface does reduce the surface tension of the water and makes it "wetter."



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From Fig. 1 you can see how the molecule acts in water, how it "stands upright" instead of "lieing down" on its side.

Wetting Agents Available

There are a number of wetting agents available under such proprietary names as Kwik-Wet, Foto-Foam and Easy-Wet. These all come in a concentrated solution, and are obtainable at photo dealers.

Aerosol OT is manufactured by the American Cyanamid and Chemical Corporation, Rockefeller Plaza, New York City. It is obtainable in various forms from scientific chemical supply houses, such as Eimer & Amend, 205 Third Ave., N. Y. C., Harshaw Chemical Company, Cleveland and Cincinnati in 1/4 pounds. Aerosol OT can also be obtained in a liquid form; for use, a dilution of .0001 in the final solution gives good photographic results. In dissolving the solid form, use 1 oz. to 100 oz. of distilled water and filter. Since the solid form is very slow to dissolve, it is best to allow it to stand in water for 3 days.

This is the working solution: use 1 oz. of it to 100 oz. of developer, or hypo, or any solution. It is practically neutral, has a pH of 6.5 to 7.0, and is non-toxic. It will not change the action of the solution except as has been noted in producing remarkable wetting, penetrating, and dispersing properties.

The uses of wetting agents are practically unlimited. A wetting agent in plain water may also be used as a fore-bath, soaking the film that is to be developed, reduced or intensified, for 2 to 5 minutes. For cleaning glassware (not lenses, however) such as graduates and film holders for enlargers, a wetting agent used in a fairly concentrated form, such as the Aerosol working solution, leaves glass brilliant and sparkling without using a lint-carrying towel to dry it. Just today an artist friend of ours phoned excitedly to say that he had found that a wetting agent added to his water colors made them go on the paper more smoothly and had completely eliminated the color puddles which settle out with such unhappy results.

Flash Without Synchronizers

(Continued from page 21)

The pushbutton or trigger release should be operated smoothly with one finger of the hand while the other fingers clamp firmly around the body of the camera. Pressing the camera firmly against the face while looking through the viewfinder further helps reduce jarring when the shutter is opened.

The SM is fine for hand-held open-flash action photography. With the Victor No. 65 Midget-flash pocket reflector, it is effective up to 20 feet using fast film.

IN USING OPEN-FLASH

DO . . .

- set the camera for time or bulb.
- be sure to keep camera steady.
- measure LAMP to subject distance accurately as a basis for exposure.
- take action pictures.
- try some 2-lamp shots, with one lamp on extension and one at camera.
- fire all SM's from battery power.
- take color on Kodachrome type "A" without a filter.
- use panchromatic film for black and white.

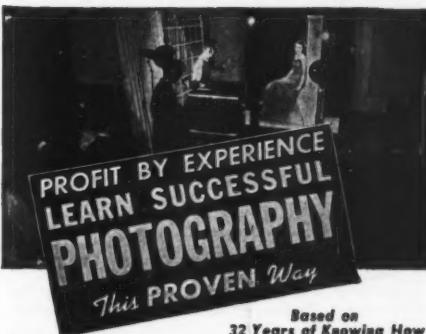
DON'T . . .

- set camera for snapshot speeds without synchronizer.
- shoot while camera is moving.
- ask your subjects to pose stiffly for flash shots.
- make all your pictures with only one lamp at camera.
- use slow orthochromatic films for general flash work.
- flash SM's on house current.



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16mm Sound Projectors Wanted By Government

AN APPEAL has gone out from the War Production Board in Washington for 1939, 1940 and 1941 model sound projectors for 16mm. film. The machines will be purchased by the government for use in the War, Navy and other government departments for training work and visual education of the armed forces and war workers. The WPB will do the purchasing for all departments and serve as a clearing house for persons willing to sell their equipment.

It is estimated that approximately 35,000 16mm. sound projectors were sold during the years of '39, '40 and '41.

The shortage of aluminum has curtailed the production of new models of the projectors, and the castings which are made from aluminum have been ordered discontinued altogether.

If you have a 16mm. projector—sound equipment—and you wish to sell it to the government write M. D. Moore, Electrical Appliances and Consumers' Durable Goods Branch, War Production Board, Washington, D.C.

U. S. Army to Film Soldiers' Letters

To speed delivery of mail to soldiers in the field, the War Department will shortly begin photographing letters on rolls of 16-millimeter motion-picture film, to be flown to an Army base where enlargements will be made.

The new service will be identical from home to base and from base to home, and it is expected not only to save valuable cargo space by eliminating the bulk, but to provide safer and faster transportation.

The process will be similar to microfilm,

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wherein letters and documents are photographed on small motion-picture film plates which later can be enlarged on paper.

Swift transportation of mail to troops is considered by the Army as second only to food in maintenance of morale. At present Army mail goes to troops on the ration trains.

Under the new plan, which will be called "V-Mail" for Victory, several hundred letters will be photographed on a small roll of film. This procedure is expected to simplify the task of delivering mail to United States forces now occupying bases in every part of the world.

A similar plan was developed by the British for the delivery of mail to troops in the Near East. The British mail service was based in Alexandria, Egypt.—*Science Service*.

Infra-Red Flash For News Pictures

This picture of Governor and Mrs. Herbert Lehman, of New York, was made in the dark using one of the new G. E. infra-red photo



flash bulbs. The exposure was 1/50 sec. at f/6.3; the film was Eastman infra-red 4x5, and the camera was 10 feet from the Governor and his wife, who were viewing Schenectady's first test blackout.

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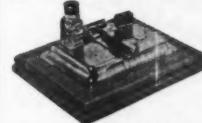
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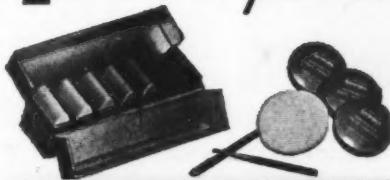
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Contest Winners

Two prizes instead of one were awarded in
the monthly Kalart Speed Flash Contest.



The picture above was submitted by Clifford
Yeich, Reading, Pa. A Wabash Press 40 lamp
was used at 15 feet.



The picture above was taken by Jack Hol-
land, Albany, Ga., on Superpan Press film. He
used two Wabash bulbs No. 2A about 6 feet to
the left and Press 40 on camera.

SALONS

Closing Date	Name of Salon	For Entry Blank, Write to	No. of Prints & Entry Fee
May 24	Fifth Memphis National Salon of Photography.	Harry C. Wilson, P. O. Box 1350, Memphis, Tenn.	4 \$1.00
May 20	Eleventh Annual Detroit International Salon of Photography.	Isadore Arnold Berger, 1428 National Bank Bldg., Detroit, Mich.	4 \$1.00
May 15	Chicago Historical Society's First Annual International Salon of Photography.	Chicago Historical Society, Photo Dept., Clark St. at North Ave., Chicago, Ill.	4 or 6 Kodachrome \$1.00
May 10	Salon of Pictorial Photographers of the Northwest.	J. W. Fox, 64 S. Main Ave., Sioux Falls, S. Dak.	4 \$1.00
May 9	Fifth May Salon of Photography of Springfield Camera Club.	I. C. McMillen, Y. M. C. A., Springfield Ohio.	4 \$1.00
May 4	The Hartford International Salon of Photography.	Salon Committee, Box 1822, Hartford, Conn.	4 \$1.00
May 1	Second Annual Ozark Salon of Photography.	Mary K. Hancock, 1105 East Brower St., Springfield, Mo.	4 \$1.00
May 1	Montreal International Salon of Photography.	Mrs. Raymond Caron, 77 Sunnyside Ave., Westmount, Quebec, Canada.	4 \$1.00
May 1	Vancouver Salon of Photography.	J. Crookall, 3746 Eton St., Vancouver, B.C., Canada.	4 \$1.00
May 1	Fourth Annual International Photographic Salon of Northern New York.	Ars. Paul Mitchell, 226 Thompson Blvd., Waterford, N.Y.	4 \$1.00
April 30	1942 Tacoma Photographic Salon.	Earl D. Mann, Tacoma Camera Club 1021 Pacific Ave., Tacoma, Wash.	4 \$1.00
April 25	Fifth New Jersey Salon of Photography.	Donald Marshall, Orange Camera Club, 1 South Clinton St., East Orange, N.J.	See ent. blank \$1.00
April 23	Eighth Annual Blossom Salon of Photography.	Jud on Mitchell, Salon Sec., 614 Broad Street, St. Joseph, Mich.	4 \$1.00
April 23	Oklahoma International Salon of Photography.	Z. M. Swan, Sec., Oklahoma International Salon, 1115 N. W. 41st St., Oklahoma City, Okla.	4 \$1.00
April 21	Cincinnati Salon of Photography.	Warren R. Oder, Jr., 5006 Whetzel Ave., Cincinnati, Ohio.	4 \$1.00
April 21	Second Paducah International Salon of Photography.	E. E. Curtis, Box 203, Paducah, Ky.	4 \$1.00
April 15	National High School Salon of Photography.	National High School of Photography, care Stuyvesant High School, 345 East 15th St., New York.	6 None
April 15	Fifth Annual Rocky Mountain National Salon of Photography.	Mrs. Haywood Hughes, 1364 Lafayette St., Denver, Colo.	4 \$1.00
April 15	The Third Toledo International Photographic Salon.	Carl F. Reupsch, Salon Chr., 4362 Willys Parkway, Toledo, Ohio.	4 \$1.00
April 15	Fourth Annual Salon of Racine Camera Club.	Gens. Weins, Salon Chr., Wustum Museum of Fine Arts, Racine, Wis.	4 and 6 (2x2") Kodachromes \$1.00 for both



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Bridgeton, N. J. April 6 to 19 at Bridgeton Camera Society, Commerce and Laurel St. Fifth Annual Salon of Pictorial Photography. Hours open: 2 P. M. to 10 P. M. Adm. free.

BROOKLYN, N. Y. April 19 to May 10 at the Brooklyn Museum, Eastern Parkway. 52nd Annual Exhibition of Photographs by the Dept. of Photography, Brooklyn Institute of Arts and Sciences. Hours open: 10 A. M. to 5 P. M. daily; 1 P. M. to 6 P. M., Sundays. Adm. free.

CHICAGO, ILL. Feb. 23 to May 15 at the Lakeside Press Galleries, R. R. Donnelley & Sons Company, 350 22nd Street. An Exhibition of Modern American Photography in both black and white and color. Open Mon. to Friday (except holidays) 9 A. M. to 5 P. M.

CINCINNATI, OHIO. April 19 to 23 at Netherland Plaza Hotel. Fourth Ceramic Camera Club Salon of Photography. Open all day.

DENVER, COLO. May 1 to 15 at Denver Art Museum, Main Gallery, Chappell House, 1300 Logan St. Fifth Annual Rocky Mountain National Salon of Photography. Hours open: 7 A. M. to 9 P. M. Adm. free.

DURHAM, N. H. April 1 to 13 at the Hamilton Smith Library, Main St. Third Annual Granite State Salon of Photography. Hours open: 8 A. M. to 5 P. M.

FITCHBURG, MASS. April 5 to 29 at Fitchburg Art Center, Merriman Parkway. Fifth Annual Salon of Photography of Camera

Club of Fitchburg. Hours open: 10 to 12 A. M. and 2 to 5 P. M. daily, except Mon.; 7 to 10 P. M. Tues. evenings; 3 to 5 P. M. Sundays. Adm. free.

GREEN BAY, WIS. April 5 to 19 at Y. M. C. A., Pine and Jefferson St. Fox River Valley Photographic Salon. Open all day. Adm. free.

NEWPORT, R. I. April 12 to 19 at the Art Association of Newport, 76 Bellevue Ave. Fourth International Salon of Photography. Hours open: 9 A. M. to 6 P. M. daily; 2 P. M. to 5:30 P. M., Sundays. Adm. free.

PITTSBURGH, PA. March 20 to April 19 at Fine Arts Galleries, Carnegie Museum, 29th Annual Pittsburgh Salon of Photographic Art. Hours open: 10 A. M. to 6 P. M. daily; 2 P. M. to 6 P. M. Sundays. Adm. free.

PORTLAND, ME. April 5 to May 2 at the Sweat Memorial Art Museum, 111 High St. 43rd Annual Photographic Salon. Hours open: 10 A. M. to 4:30 P. M. daily except Mon.; 2 P. M. to 4:30 P. M., Sundays. Adm. free.

RACINE, WIS. May 1 to 31 at Charles A. Wustum Museum of Fine Arts, 2542 N. Western Ave. Fourth Annual Salon of Racine Camera Club. Hours open: 10 A. M. to 5 P. M. daily; 2 P. M. to 5 P. M., Sundays. Adm. free. Special division of 2x2 inch Kodachrome color slides will be shown.

SCRANTON, PA. April 18 to May 10 at Everhart Museum, Nay Aug Park. Seventh International Anthracite Photographic Salon. Hours open: 10 A. M. to 5 P. M. daily except Mon.; 2 P. M. to 5 P. M., Sundays. Adm. free.

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APRIL CONTEST CALENDAR

Open to	Subjects	Prizes	For copy of rules write to	Contest closes
Press photographers.	Men in the news smoking cigars.	\$50, \$25, five prizes of \$20, five of \$10. Silver and bronze medallions.	Cigar Institute of America, 630 Fifth Avenue, New York City.	Three competitions, ending June 30, Sept. 30, December 31, 1942.
All.	Any.	2 exposure meters, 35 mm., roll film, and photo-finishing credit coupons.	Technifinish Lab., 641 Brown St., Dept. M., Rochester, N. Y.	June 1.
All camera clubs.	Any.	Medals, trophies, certificates.	F. Quellmalz, Jr., Photographic Soc. of America, Franklin Institute, Philadelphia.	Last day each mo. till May.
All.	Pictures taken in South Dakota of hunting and wildlife, water action pictures, winter sports, mountain scenes, highways, agriculture and industries, Indians, and color shots.	272 prizes totaling \$1,000.00.	H. Dean Stallings, Chr., S. Dakota Photography Contest, Jr. Chamber of Commerce, Brookings, South Dakota.	Monthly till June 30.
Amateurs.	Any.	\$25 in awards, including three \$5 prizes weekly.	Camera Contest Editor, Chicago Herald-American, 326 W. Madison St., Chicago.	Weekly.
Amateur Photographers only.	Anything. Awards based on subject interest and initial impact.	\$10, \$5, \$4, \$3.	Mechanix Illustrated, 1501 Broadway, N. Y. C.	24th of each month.

CLASSIFIED ADVERTISING

MINICAM PHOTOGRAPHY reaches 70,000 readers each month, including all manufacturers, jobbers and dealers in the photographic industry; as well as well known photographers, instructors of classes in photography, and leaders in arts, industry and science interested in photography and advanced amateur photographers. Rates for advertising in these columns are ten cents a word. Ten words is the minimum order accepted. Each word counts. Send your copy with check to cover for the May issue on or before April 9th.

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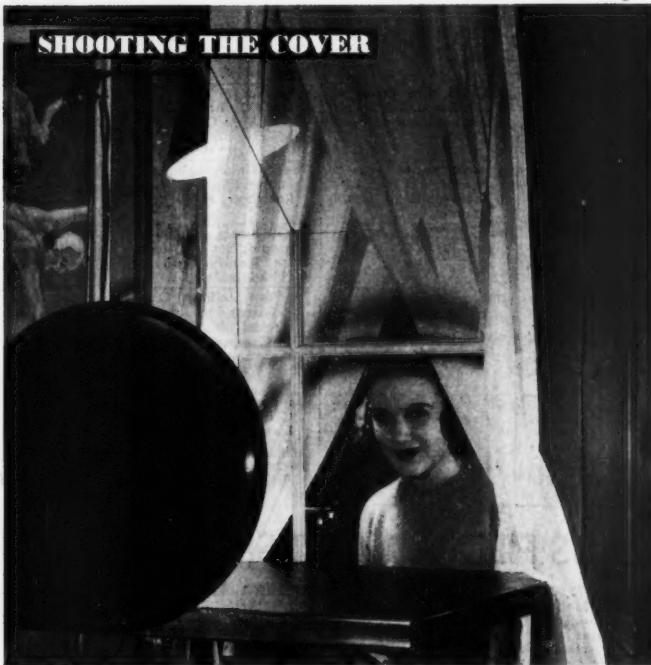
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SHOOTING THE COVER



AFTER APRIL SHOWERS

E. CARTER PERKINS, who made the Kodachrome for this month's cover, once read this *negative* advice on color shots: "Don't try to get all the colors of the rainbow into your color shots." He didn't heed it, however, for this specific shot and says, reflectively, ". . . very good advice, after air-brushing about twenty rainbows, exposing a dozen sheets of Kodachrome and firing forty flash bulbs I am convinced that rainbows, like marriages, are made in Heaven."

The rainbow was sprayed on the back of a sheet of glass, the window moulding was glued to the front; clear cellulose cement was used for the rain-drops.

The camera was four feet from the model, a large reflector close to the camera, a small reflector above the girl's head and a spot reflector to the right.

The model is Marjorie Hellman, a professional model in Baltimore who, inci-



DATA: Camera: 3 1/4x4 1/4 Auto Graflex. Lens: 7 1/2 in. B&L Tessar. Film: Kodachrome Type B. No. 21 flash bulbs. A No. 2A filter was used.

dentially, is quite interested in photography.

A professional artist, Perkins became interested in color photography by accident. His appreciation of color as a medium of design as well as an emotional stimulant makes his photographs fresh and spontaneous.

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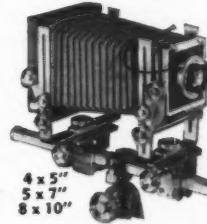


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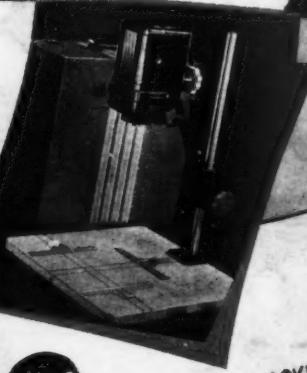


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STRICTLY A
"MINIATURE MAN"
AND HIS SPACE FOR DARK-
ROOM ACTIVITIES IS
LIMITED, HE GOES FOR

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BECAUSE HE
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TWO CAMERAS
... SOMETIMES THREE...
HE'S DECIDED ON

KODAK AUTO-FOCUS ENLARGER
MODEL C \$51⁷⁵



BECAUSE HE'S LOOKING
FOR VERSATILITY AS
HE CAN'T SEE ANYTHING BUT

KODAK PRECISION
ENLARGER \$72



KODAK ADVANCE ENLARGER, MODEL 2. Takes negatives from 35 mm. to $3\frac{1}{4} \times 5\frac{1}{2}$ (maximum enlargeable area $3\frac{3}{16} \times 4\frac{1}{2}$). With f/11 lens, magnifications up to $5\frac{1}{2}$ diameters (other lenses available). **\$33²⁵**
Price, with f/11 lens....

KODAK AUTO-FOCUS ENLARGER, MODEL C. Takes many film and plate negatives... $1\frac{3}{16} \times 1\frac{9}{16}$ to $3\frac{1}{4} \times 5\frac{1}{2}$ and 4×5 . Kodak Anastigmat lens. Automatic focusing at magnifications from $1\frac{1}{2}$ to $3\frac{1}{2}$ diameters. Manual focusing, $3\frac{1}{2}$ to 10 diameters.... **\$51⁷⁵**

KODAK PORTABLE MINIATURE ENLARGER. For 35-mm. or Bantam negatives. Magnifications, $2\frac{1}{2}$ to 9 diameters. With 2" f/6.3 Kodak Pro-

jection Anastigmat lens, \$37.35. **\$45³⁵**
With same lens, Carryall Case

KODAK PRECISION ENLARGER. Can be converted for copying, ciné titling, photomicrography, color-separation negatives; or may be used as a camera. New Kodak Precision Enlarger B Assembly (for negatives up to $3\frac{1}{4} \times 5\frac{1}{2}$ and 4×5), without lens, \$95.45. Kodak Precision Enlarger A Assembly (for negatives up to $2\frac{1}{4} \times 3\frac{1}{4}$), without lens..... **\$72**

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Meet your new Enlarger at your **KODAK dealer's**

